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Daub et al.

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[54] SUBSTITUTED SEMICARBAZONE ARTHROPODICIDES

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§ 371 Date: **May 20, 1991**

§ 102(e) Date: **May 20, 1991**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 436,361, Nov. 13, 1989, abandoned, which is a continuation-in-part of Ser. No. 290,404, Dec. 27, 1988, abandoned.

[51] **Int. Cl.**^{5} **A01N 47/34;** A01N 47/30; C07C 281/12; C07C 337/08

[52] **U.S. Cl.** **514/583;** 514/530; 514/521; 514/588; 558/404; 560/28; 560/34; 564/20; 564/21; 564/36

[58] **Field of Search** 564/20, 21, 36; 514/583, 588

[56] **References Cited**

U.S. PATENT DOCUMENTS

4,547,524	10/1985	Kaneko	514/594
4,593,027	6/1986	Mulder et al.	564/36

FOREIGN PATENT DOCUMENTS

3913	9/1979	European Pat. Off. .
26040	4/1981	European Pat. Off. .
254461	1/1988	European Pat. Off. .
8800197	1/1988	PCT Int'l Appl. .

OTHER PUBLICATIONS

J. Indian Chem. Soc., 37, pp. 443–450 (1960).

Misra et al., J. Indian Chem. Soc., 52(10) pp. 981–982 (1975); Chem. Abst. vol. 84, 73957m (1976).

Lundquist, J. Chem. Soc. (C), pp. 63–66 (1970).

Treibs et al., Berichte, 86(5), pp. 616–625 (1953).

Primary Examiner—Bernard Dentz
Attorney, Agent, or Firm—James A. Costello

[57] **ABSTRACT**

Certain substituted semicarbazones, including all geometric and stereoisomers thereof, agricultural compositions containing them and their use as arthropodicides.

13 Claims, No Drawings

SUBSTITUTED SEMICARBAZONE ARTHROPODICIDES

This application is a continuation-in-part filed via the PCT of U.S. application Ser. No. 07/436,361, filed on Nov. 13, 1989, now abandoned, which was a continuation-in-part of U.S. application Ser. No. 07/290,404, filed on Dec. 27, 1988, now abandoned.

BACKGROUND OF THE INVENTION

U. S. Pat. No. 4,547,524 discloses benzoyl hydrazone derivatives as insecticides.

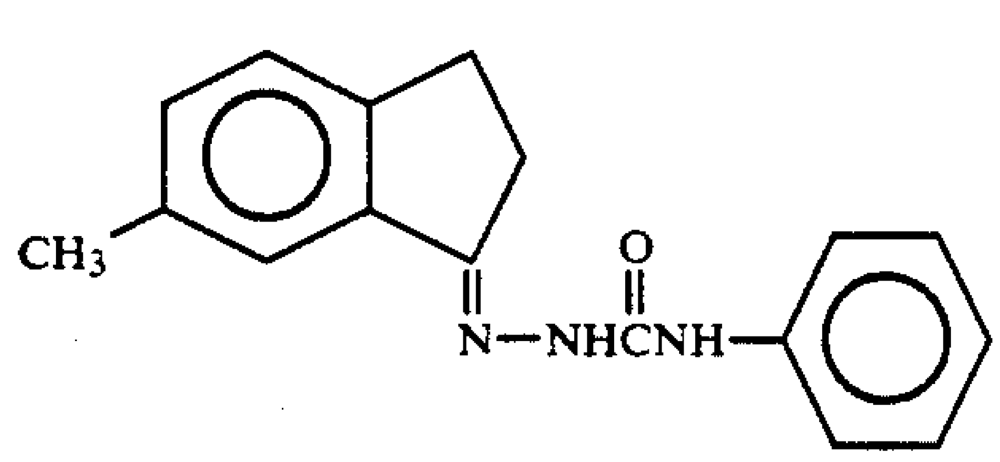
WO 8800197 discloses as part of a broader scope substituted semicarbazones derived from chromanones and thiochromanones as intermediates used in the preparation of insecticides.

EP-3,913 discloses substituted benzophenone hydrazones to be useful as insecticides.

EP-26,040 discloses a broad scope of substituted hydrazones to be useful as insecticides.

EP-254,461 discloses N-substituted hydrazones to be useful as insecticides.

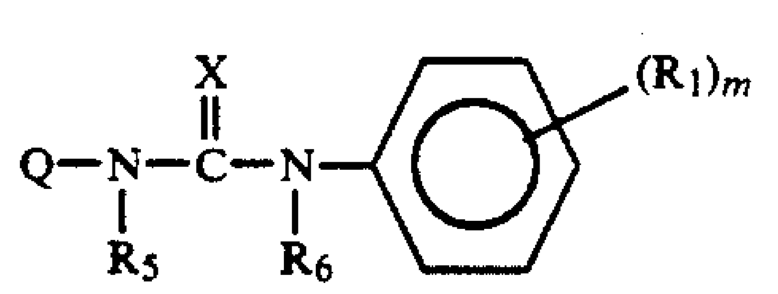
J. Ind. Chem. Soc. 37, Pages 443 to 50 (1960) discloses a compound of the formula:



but no utility therefor.

SUMMARY OF THE INVENTION

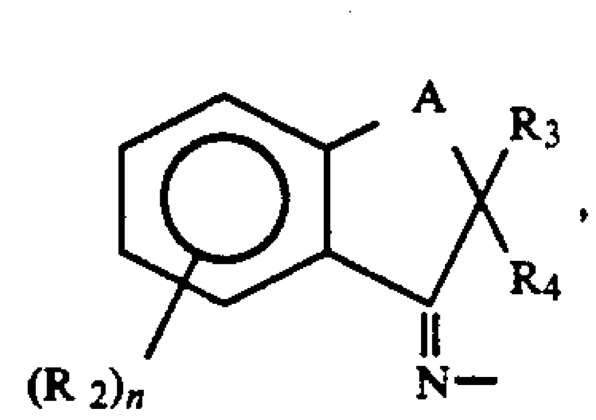
This invention pertains to compounds of Formula I, including all geometric isomers, stereoisomers, and agronomically and nonagronomically suitable salts thereof, compositions containing them, and their use as agronomic and nonagronomic arthropodicides:



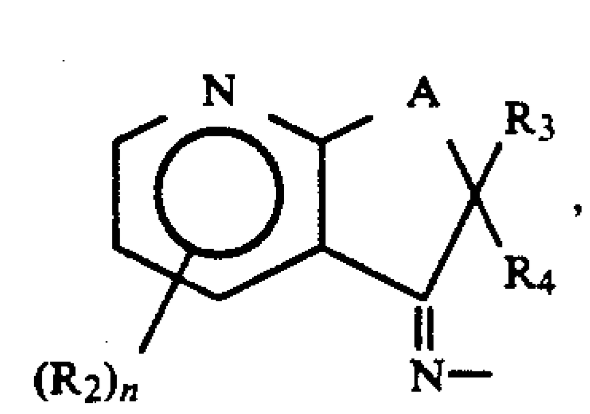
I

wherein:

Q is



Q-1



Q-2

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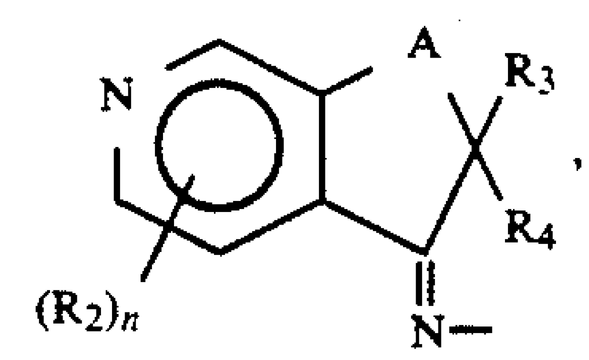
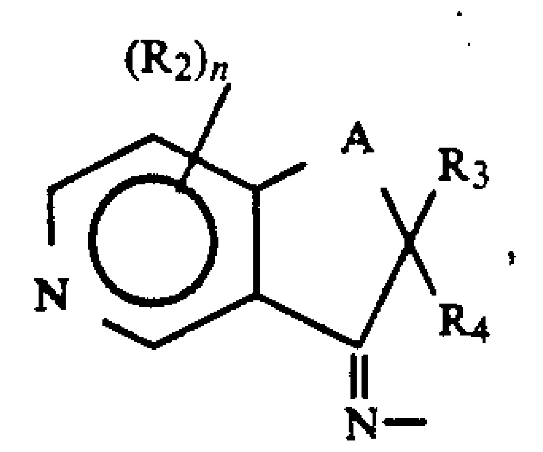
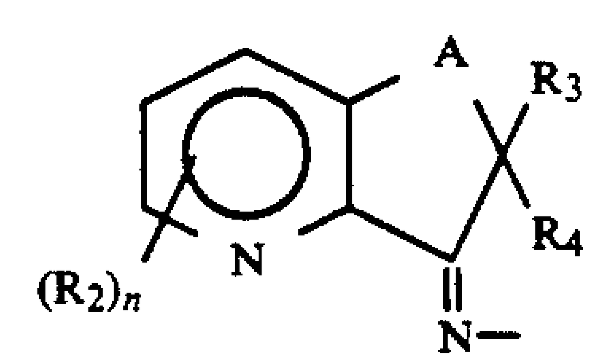


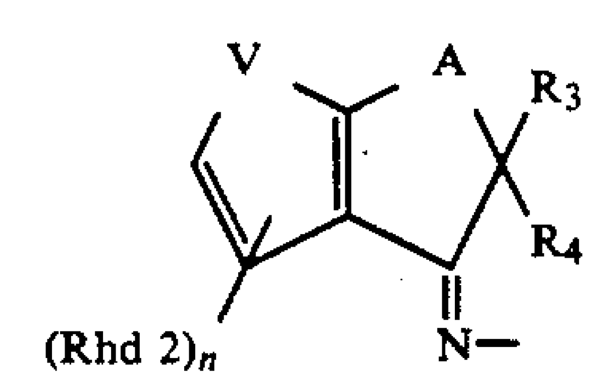
Q-3



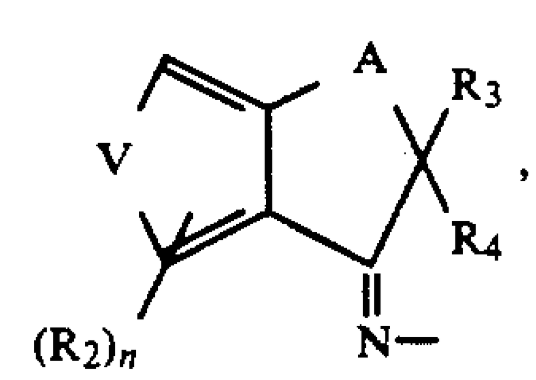
Q-4



Q-5



Q-6



Q-7

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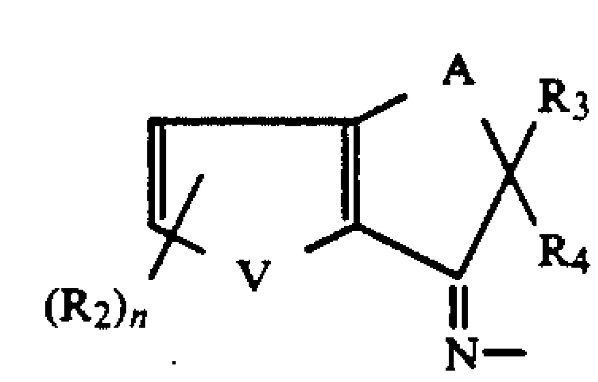


Q-8

A is $(CH_2)_t$, O, $S(O)_q$, NR_7, OCH_2 or $S(O)_qCH_2$, wherein, each carbon individually can be substituted with 1 to 2 substituents selected from 1 to 2 halogen, C_1–C_6 alkyl, C_3–C_6 cycloalkyl, C_3–C_6 halocycloalkyl, C_4–C_7 alkylcycloalkyl, C_2–C_4 alkoxycarbonyl, or phenyl optionally substituted with 1 to 3 substituent independently selected from W;

R_1 and R_2 are independently R_8, halogen, CN, NO_2, N_3, SCN, OR_8, SR_8, SOR_8, SO_2R_8, NR_8R_9, $C(O)R_8$, CO_2R_8, $C(O)NR_8R_9$, $OC(O)R_8$, OCO_2R_8, $OC(O)NR_8R_9$, $NR_9C(O)R_8$, $NR_9C(O)NR_8R_9$, OSO_2R_8, $NR_9SO_2R_8$, or when m is 2, R_1 is optionally taken together to form a 5 or 6 membered fused ring as —OCH_2O, OCH_2CH_2O OR CH_2CH_2O each of which is optionally substituted with 1 to 4 halogen atoms or 1 to 2 methyl groups, or when n is 2, R_2 is optionally taken together to form a 5 or 6 membered fused ring as OCH_2O, OCH_2CH_2O or CH_2CH_2O each of which can be substituted 1 to 4 halogens or 1 to 2 methyl groups: R_2 being other than $CH_3$when R_1, R_3 and R_4 are H and A is CH_2;

R_3 is H, C_1–C_6 alkyl, C_1–C_6 haloalkyl, C_4–C_6 alkylcycloalkyl, C_2–C_6 alkenyl, C_2–C_6 haloalkenyl, C_2–C_6 alkynyl, C_2–C_6 haloalkynyl, C_2–C_6 alkoxyalkyi, C_2–C_6 cyanoalkyl, C_3–C_8 alkoxycarbonylalkyl, OR_8, $S(O)_qR_8$, NR_8R_9, CN, CO_2R_8, $C(O)R_8$, $C(O)NR_8R_9$, $C(S)NR_8R_9$, $C(S)R_8$, $C(S)SR_8$, phenyl optionally substituted with $(R_{10})_p$ or benzyl optionally substituted with 1 to 3 substituents independently selected from W or R_3 is C_3–C_6 cycloalkyl optionally substituted with 1 to 2 halogens or 1 to 2 CH_3;

R_4 is H, C_1–C_6 alkyl, C_1–C_6 haloalkyl, C_2–C_6 alkenyl, C2-C6 haloalkenyl, C2-C6 alkynyl, C_2–C_6 haloalkynyl, C_2–C_6 alkoxyalkyl, C_2–C_6 cyanoalkyl, phenyl optionally substituted with $(R_{10})_p$ or benzyl optionally substituted with 1 to 3 substituents independently selected from W;

R_5 and R_6 are independently H, C_1–C_{22} alkyl, C_2–C_{22} alkoxyalkyl, C_2–C_{22} alkylcarbonyl, C_2–C_{22} alkoxycarbonyl, C_2–C_{22} haloalkyl carbonyl, C_2–C_{22} haloalkoxycarbonyl, SR_{11}, CHO, C_1–C_4 alkylsulfonyl, phenylsulfonyl optionally substituted with 1 to 3 substituents independently selected from W; C_7–C_{15} phenoxycarbonyl optionally substituted with 1 to 3 substituents selected from W; C_7–C_{15} phenylcarbonyl optionally substituted with 1 to 3 substituents independently selected from W; $C(O)CO_2C_1$ to C_4 alkyl, C_8–C_{12} benzyloxycarbonyl optionally substituted with 1 to 3 substituents independently selected from W; or R_5 and R_6 are independently phenyl optionally substituted with 1 to 3 substituents independently selected from W, or benzyl optionally substituted with 1 to 3 substituents independently selected from W;

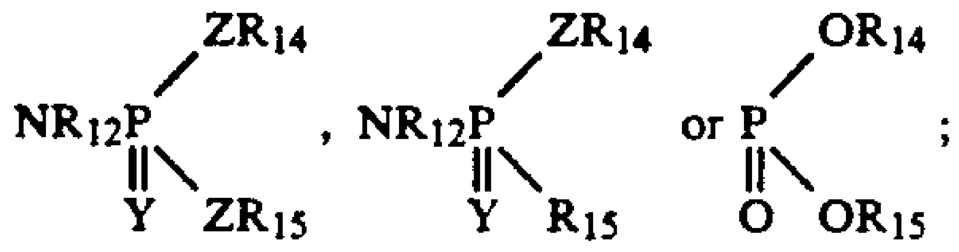
R_7 is H, C_1–C_4 alkyl or phenyl optionally substituted with W; SR_8, SOR_8, SO_2R_8, $C(O)R_8$, CO_2R_8, $C(O)NR_8R_9$, $C(S)NR_8R_9$, $C(S)R_8$, $C(S)OR_8$, $P(O)(OR_8)_2$, $P(S)(OR_8)_2$, $P(O)(R_8)OR_8$ or $P(O)(R_8)SR_8$; provided that when R_7 is other than COR_8, $C(O)NR_8R_9$ or $C(S)NR_8R_9$ then R_8 is other than H;

R_8 is H, C_1–C_6 alkyl, C_1–C_6 haloalkyl, C_4–C_7 cycloalkylalkyl, C_4–C_7 halocycloalkylalkyl C_2–C_6 alkenyl, C_2–C_6 haloalkenyl, C_2–C_6 alkynyl, C_2–C_6 haloalkynyl, C_2–C_6 alkoxyalkyl, C_2–C_6 alkylthioalkyl, C_1–C_6 nitroalkyl, C_2–C_6 cyanoalkyl, C_3–C_8 alkoxycarbonylalkyl, C_3–C_6 cycloalkyl, C_3–C_6 halocycloalkyl, phenyl optionally substituted with 1 to 3 substituents independently selected from W or benzyl optionally substituted with 1 to 3 substituents independently selected from W;

R_9 is H, C_1–C_4 alkyl, C_2–C_4 alkenyl, C_2–C_4 alkynyl, or R_8 and R_9 is optionally taken together as $(CH_2)_4$, $(CH_2)_5$ or $(CH_2CH_2OCH_2CH_2)$;

R_{10} is R_8, halogen, CN, NO_2, N_3, SCN, OR_8, SR_8, SOR_8, SO_2R_8, NR_8R_9, COR_8, CO_2R_8, $CONR_8R_9$, $SO_2NR_8R_9$, $OC(O)R_8$, OCO_2R_8, $OC(O)NR_8R_9$, $NR_9C(O)R_8$, $NR_9C(O)NR_8R_9$, OSO_2R_8, $NR_9SO_2R_8$ or when p is 2, R_{10} is optionally taken together to form a 5 or 6 membered fused ring as OCH_2O, OCH_2CH_2O, or CH_2CH_2O each of which is optionally substituted with independently, 1 to 4 halogen atoms or 1 to 2 methyl groups;

R_{11} is C_1–C_{22} alkyl, C_1–C_{22} haloalkyl, phenyl optionally substituted with 1 to 3 substituents independently selected from W, or R_{11} is $NR_{12}C(O)R_{13}$, $NR_{12}S(O)_aR_{13}$, $C(O)R_{13}$, $NR_{12}R_{16}$, SR_{14},



;

R_{12} and R_{16} are independently selected from C_1–C_6 alkyl, C_1–C_6 haloalkyl, C_3–C_6 cycloalkyl, C_4–C_7 cycloalkylalkyl, C_2–C_6 cyanoalkyl, C_2–C_6 alkoxyalkyl, C_3–C_8 alkoxycarbonylalkyl, C_4–C_8 dialkylaminocarbonylalkyl, phenyl optionally substituted by 1 to 2 substituents selected from W, benzyl optionally substituted by 1 to 2 substituents selected from W and phenethyl optionally substituted by 1 to 2 substituents selected from W, or R_{12-16} is optionally taken together as $(CH_2)_4$, $(CH_2)_5$ or $(CH_2)_2O(CH_2)_2$, each ring optionally substituted with 1 to 2 CH_3;

R_{13} is F, C_1–C_{20} alkyl, C_1–C_6 haloalkyl, C_2–C_8 dialkylamino, piperidenyl, pyrrolidenyl, morpholinyl, phenyl optionally substituted with 1 to 3 substituents selected from W, or R_{13} is C_1–C_{20} alkoxy C_1–C_6 haloalkoxy or C_1–C_4 alkoxy substituted with cyano, nitro, C_1–C_4 alkoxy, C_4–C_8 alkoxyalkoxy, C_1–C_2 alkylthio, C_2–C_3 alkoxycarbonyl, C_3–C_5 dialkylaminocarbonyl or phenyl optionally substituted with 1 to 3 substituents independently selected from W, or R_{13} is phenoxy optionally substituted with 1 to 3 substituents selected from W;

R_{14} and R_{15} are independently selected from C_1–C_4 alkyl, C_2–C_4 haloalkyl, phenyl optionally substituted with 1 to 3 substituents independently selected from W or R_{14} and R_{15} is optionally taken together as $(CH_2)_2$, $(CH_2)_3$ or $CH_2C(CH_3)_2CH_2$;

W is halogen, CN, NO_2, C_1–C_2 alkyl, C_1–C_2 haloalkyl, C_1–C_2 alkoxy, C_1–C_2 haloalkoxy, C_1–C_2 alkylthio, C_1–C_2 haloalkylthio, C_1–C_2 alkylsulfonyl or C_1–C_2 haloalkylsulfonyl;

m is 1 to 5;
n is 1 to 4;
t is 0 to 3;
q is 0 to 2;
p is 1 to 3;
a is 0 to 2;
V is O or S;
X is O or S;
Y is O or S; and
Z is O or S.

Preferred Compounds (A) are those compounds of Formula I wherein; when R_3 or R_4 is H and A is oxygen then the remaining R_3 or R_4 is other than phenyl or phenyl optionally substituted with W and when t is 0 then R_3 or R_4 are other than Ph or phenyl optionally substituted with W.

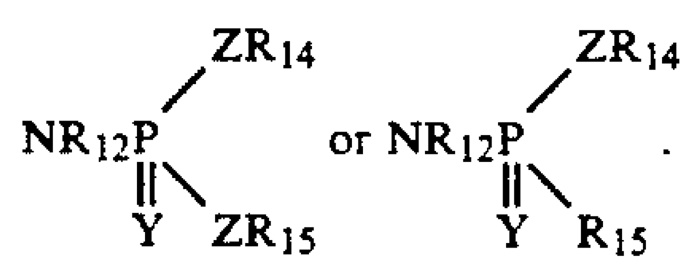
Preferred Compounds (B) are Compounds of Formula I wherein;

R_1, R_2 and R_{10} are R_8, halogen, CN, NO_2, OR_8, SR_8, SOR_8, SO_2R_8, NR_8R_9, CO_2R_8, $SO_2NR_8R_9$, or when m, n or q is 2, then R_1, R_2 or R_{10} respectively is optionally taken together to form a 5 or 6 membered fused ring as OCH_2O, OCH_2CH_2O or CH_2CH_2O each of which is optionally substituted with 1 to 4 halogens or 1 to 2 methyl groups;

R_8 is H, C_1–C_6 alkyl, C_1–C_6 haloalkyl, C_3–C_6 cycloalkylalkyl, C_3–C_6 halocycloalkylalkyl, C_2–C_6 alkenyl, C_2–C_6 haloalkenyl, C_2–C_6 alkynyl, C_3–C_6 cycloalkyl, phenyl optionally substituted with 1 to 2 substituents independently selected from W or benzyl optionally substituted with 1 to 2 substituents independently selected from W;

R_5 and R_6 are independently H, C_1–C_3 alkyl, C_2–C_4 alkylcarbonyl, C_2–C_4 alkoxycarbonyl, CHO, SR_{11}, phenyl optionally substituted with 1 to 2 substituents independently selected from W, or benzyl optionally substituted with 1 to 2 substituents independently selected from W;

R_{11} is C_1–C_3 alkyl, phenyl optionally substituted with 1 to 2 substituents independently selected from W, $NR_{12}C(O)R_{13}$, $NR_{12}S(O)_aR_{13}$, $C(O)R_{13}$, $NR_{12}R_{16}$;



R_{12} and R_{16} are independently selected from C_1–C_6 alkyl, C_1–C_6 haloalkyl, C_5–C_6 cycloalkyl, C_3–C_8 alkoxycarbonylalkyl, phenyl, benzyl and phenethyl or each phenyl, benzyl and phenethyl optionally substituted with 1 to 2 substituents independently selected from W, or R_{12} and R_{16} can be taken toqether as $(CH_2)_4$, $(CH_2)_5$ or $(CH_2)_2O(CH_2)_2$;

R_{14} and R_{15} are independently selected from C_1 to C_3 alkyl or phenyl;

m is 1 to 2;

n is 1 to 2;

p is 1 to 2;

q is 0;

V is S; and

a is 2.

Preferred Compounds (C) are Compounds B wherein:

R_3 is H, C_1–C_4 alkyl, C_1–C_4 haloalkyl, C_2–C_4 alkenyl, C_2–C_4 alkynyl, CN, phenyl optionally substituted with $(R_{10})_p$ or benzyl optionally substituted with 1 to 2 substituents independently selected from W;

R_4 is H, C_1–C_3 alkyl, C_3–C_4 alkenyl or C_3–C_4 alkynyl;

R_5 is H, Me, CO_2Me, CO_2Et, SR_{11} or phenyl optionally substituted with 1 to 2 substituents independently selected from W;

R_6 is H, Me, C(O)Me, CO_2Me or SR_{11};

R_{11} is C_1–C_3 alkyl, $NR_{12}C(O)R_{13}$, $NR_{12}S(O)_aR_{13}$, $C(O)R_{13}$, or phenyl optionally substituted with Cl, NO_2 or CH_3;

R_{12} is C_1–C_4 alkyl or phenyl optionally substituted with Cl or CH_3;

R_{13} is C_1–C_{12} alkyl, C_1–C_{12} alkoxy, C_1–C_6 haloalkyl, dimethylamino, phenyl optionally substituted with Cl or CH_3, or R_{13} is C_1–C_4 alkoxy substituted with C_2–C_4 alkoxy or 1 to 6 halogens;

A is CH_2, CH_2CH_2, O, S, OCH_2, NR_7 or SCH_2, wherein, each carbon is optionally substituted with C_1–C_3 alkyl or phenyl, wherein, the phenyl is optionally substituted with W; and;

R_7 is H, C_1–C_4 alkyl, C_2–C_4 alkenyl, C_2–C_4 alkynyl, C_2–C_4 alkylcarbonyl, C_2–C_4 alkoxycarbonyl or C_1–C_4 alkylsulfonyl.

Preferred Compound (D) are Compounds C wherein:

R_1 and R_2 are independently selected from F, Cl, Br, CN, NO_2, OMe, CF_3, OCF_2H, OCF_2CF_2H, SMe, SO_2Me, SCF_2H or when m or n is 2 R_1 or R_2 respectively is optionally taken together as $CH_2C(CH_3)_2O$ or CF_2CF_2O;

R_3 is C_1 to C_4 alkyl, allyl, propargyl, or phenyl optionally substituted with F, Cl, Br, CF_3, OCF_2H, OCF_3, SCF_2H, CN, NO_2, CH_3, OMe or CO_2Me;

R_4 is H or CH_3;

R_5 is H, CH_3 CO_2CH_3, CO_2Et, or phenyl optionally substituted with F or Cl;

R_6 is H, CH_3, $C(O)CH_3$ or CO_2CH_3; and

A is O, S or CH_2, optionally substituted with C_1–C_3alkyl or phenyl which may also be optionally substituted with W.

Preferred Compounds (E) are Compounds D wherein A is CH_2; and $R_3$is optionally substituted phenyl or $C_1$to C_4 alkyl. Preferred Compounds (F) are compounds of Formula I wherein Q is Q-1. Preferred Compounds (G) are compounds of Formula I wherein Q is Q-2. Preferred Compounds (H) are compounds of Formula I wherein Q is Q_3. Preferred Compounds (I) are compounds of Formula I wherein Q to Q_4. Preferred Compounds (J) are compounds of Formula I wherein Q is Q_5. Preferred Compounds (K) are compounds of Formula I wherein Q is Q_6. Preferred Compounds (L) are compounds of Formula I wherein Q is Q_7. Preferred Compounds (M) are compounds of Formula I wherein Q is Q_8. Preferred Compounds (N) are Compounds (E) wherein Q is Q-1.

Specifically preferred are the compounds:

O) 2-[5-fluoro-2-(4-fluorophenyl)-2,3-dihydro-1H-inden-1-yl-idene]-N-[4-(trifluoromethoxy)phenyl]hydrazine carboxamide;

P) 2-[6-chloro-2,3-dihydro-2-methyl-2-(2-propenyl)-3-benzo-furanylidene]-N-[4-(trifluoromethoxy)phenyl]-hydrazine carboxamide;

Q) 2-(5-fluoro-2,3-dihydro-2-methyl-1H-inden-1-ylidene)-N-[4-(trifluoro methyl)phenyl]hydrazine carboxamide;

R) 2-[5-chloro-2,3-dihydro-2-(1-methylethyl)-1H-inden-1-ylidene]-N-[4-(trifluoromethyl)phenyl]hydrazine carboxamide;

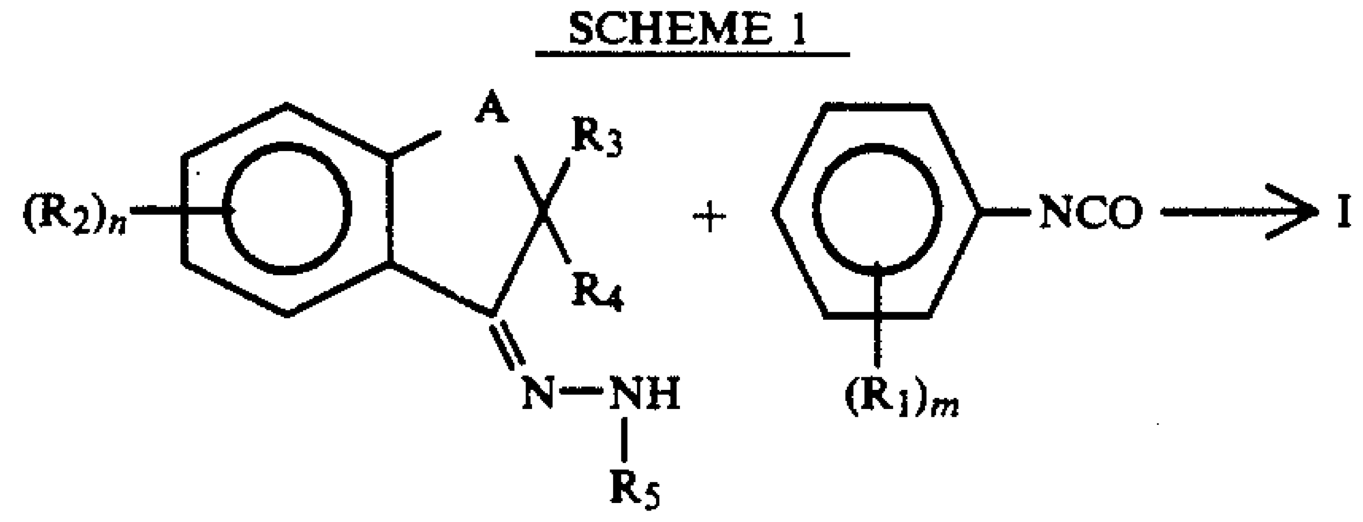
S) 2-(5-chloro-2,3-dihydro-2-methyl-1H-inden-1-ylidene)-N-[4-(trifluoromethyl) phenyl]hydrazine carboxamide; and

T) 2-[5-fluoro-2-(4-fluorophenyl)-2,3-dihydro-1H-inden-1-yl-idene]-N-[4-(trifluoromethyl)phenyl]hydrazine carboxamide.

DETAILS OF THE INVENTION

The compounds of Formula I, where Q is Q-1, can be prepared by the reaction of hydrazones of Formula II with an aryl isocyanate of Formula III. Compounds of Formula I, where Q is Q-2 through Q-8, can be prepared by procedures which are analogous to those for compounds where Q is Q-1; therefore, for brevity only the Q-1 compounds are described. Typical reactions involve combination of equimolar amounts of II and III in a suitable solvent at temperatures generally in the range of −10° to 100° C. Although the reaction can be run neat, a solvent is generally preferred. Suitable solvents typically have sufficient polarity to effect solution of the Formula II hydrazone and include, but are not limited to, ethers such as diethyl ether, tetrahydrofuran and dioxane; halogenated hydrocarbons such as methylene chloride, chloroform and carbon tetrachloride; aromatic hydrocarbons such as benzene, toluene and xylene; esters such as ethyl acetate and polar aprotic solvents such as dimethylformamide and dimethylacetamide.

SCHEME 1



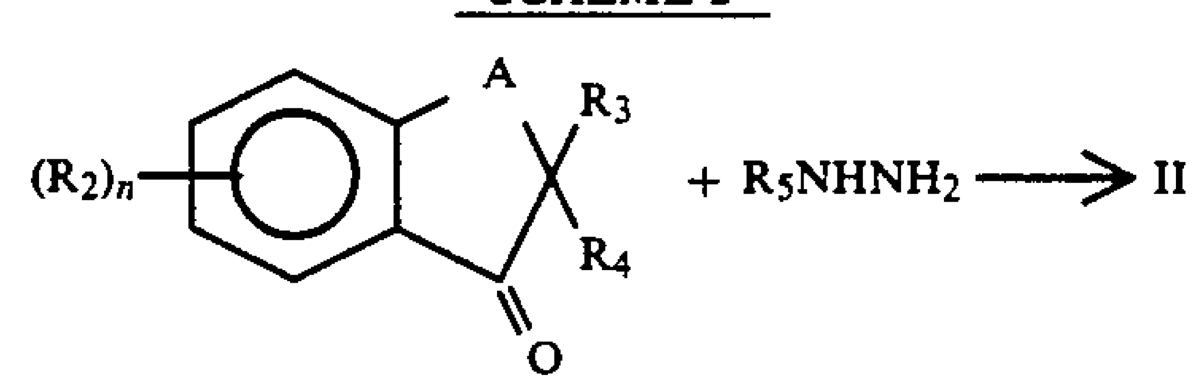
II III

Compounds of Formula I include both geometrical and optical isomers as well as syn and anti isomers around the nitrogen-nitrogen bond. These isomers may vary in their biological activity. In some instances, it may be desirable to obtain compounds which are geometrically and/or optically pure or which are enriched in one or more of the possible isomers. All such isomers are included within the scope of this invention.

For the sake of simplifying the description of this invention, the generic formula (Formula I) encompasses certain compounds that may have long term stability problems and/or are difficult to prepare. For example, when R_1 is an OCO_2R_8 group and R_8 is hydrogen the R_1 substituent is OCO_2H which will decompose to the corresponding phenol and carbon dioxide. Similarly, haloalkylamines when R_1 is NR_8R_9 and R_8 is C_1 to C_6 haloalkyl are unstable when the halo substituent is directly adjacent to nitrogen. These generally decompose to the corresponding hydrogen halides and imine. These compounds, however, are relatively few; their identity would be obvious to one skilled in the art, and their excision from the scope would unduly complicate and lengthen the description of the invention.

The hydrazones of Formula II can be obtained by processes known in the art involving condensation of a ketone of Formula IV with either hydrazine or a substituted derivative thereof (Formula V). This reaction is typically conducted with equimolar amounts of IV and V although greater than stoichiometric amounts of hydrazine (V) can be used. Suitable solvents include the alcohols such as methanol, ethanol, propanol, butanol and the like at temperatures in the range of 0° to 150° C., with the reflux temperature of the solvent generally being a convenient reaction temperature. Acid catalysis can also be useful, particularly for some of the more sterically hindered Formula IV compounds. Typical acid catalysts include sulfuric, hydrochloric and p-toluene sulfonic acid.

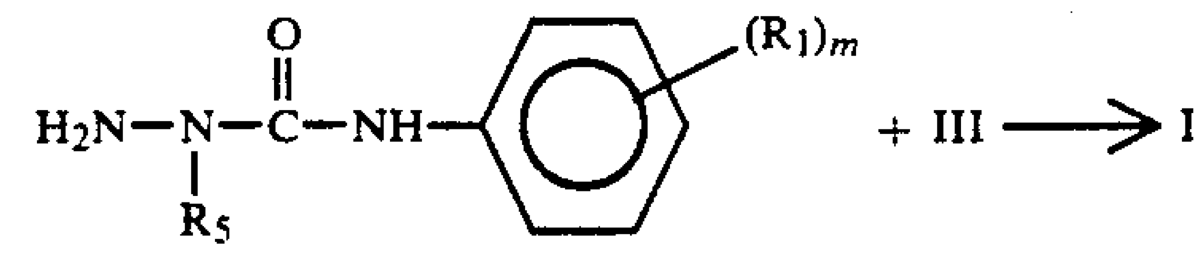
SCHEME 2



IV V

An alternate process useful for the preparation of compounds of Formula I involves condensation of a phenyl substituted semicarbazide of Formula VI with a ketone of Formula III. Preferred conditions for this reaction include an acid catalyst such as hydrochloric, sulfuric or p-toluene sulfonic acid. Reaction temperatures can range from 0° to 150° C. with the reflux temperature of the solvent used generally preferred. Suitable solvents include, but are not limited to, ethers such as tetrahydrofuran and dioxane; aromatic hydrocarbons such as benzene and toluene; and especially preferred are alcohols such as methanol, ethanol and isopropanol.

SCHEME 3



VI

Compounds of Formula I where R_5 and R_6 are other than hydrogen can generally be prepared from the corresponding compounds where R_5 and R_6 are hydrogen by reaction with electrophilic reagents such as alkyl halides, acyl halides, alkyl chloroformates and sulfenyl halides. The use of a base is generally preferred in these reactions but is dependent upon the specific nature of the reactants. For example, when the electrophilic reagent is selected from an alkyl halide, acyl halide or alkyl chloroformate, then metal hydrides such as sodium hydride or potassium hydride in solvents such as tetrahydrofuran or dimethylformamide are preferred. When sulfenyl halides are used then amine bases such as triethylamine in solvents such as diethyl ether or tetrahydrofuran are generally preferred. Of course, many of the compounds where R_5 is other than H can also be prepared by use of the appropriate hydrazine V in Scheme 2. For example, methyl hydrazine and methyl carbazate will produce compounds where R_5 is methyl and carbomethoxy, respectively.

The starting ketones of Formula II are known or can be obtained by processes analogous to known ones. Those skilled in the art will recognize the Formula II compounds to include indanones, tetralones, chromanones, thiochromanones, benzofuran-3-ones, thiobenzofuran-3-ones, isochromanones, isothiochromanones and others.

The following examples illustrate the invention.

EXAMPLE 1

Step A: 3-chloro-α-(4-chlorophenyl)benzenepropanoic acid

To a solution of 6.8 g (0.17 mol) of 60% sodium hydride in 150 ml of dimethylformamide under nitrogen was added 30.0 g (0.162 mol) of methyl 4-chlorophenylacetate dropwise such that hydrogen evolution was moderate and the temperature of the reaction was maintained at less than 50° C. Once hydrogen evolution had ceased, a solution of 3-chlorobenzylbromide in 30 ml of dimethylformamide was added very cautiously such that the reaction temperature was maintained at less than 60° C. The reaction was maintained at 50° to 60° C. with stirring overnight after which time it was partitioned between 5% aqueous $NaHCO_3$ and diethyl ether, the aqueous extracts were washed twice with ether and the combined organic extracts were then washed with water. The ether extracts were dried over $MgSO_4$, filtered and concentrated to afford 48.0 g of a brown oil.

The crude product was combined with 300 ml of methanol, 40 ml of water and 20 ml of 50% aqueous sodium hydroxide and refluxed overnight. After this time the reaction was concentrated and the crude residue partitioned between water and ether. The aqueous extracts were acidified with conc. hydrochloric acid and extracted several times with ether. The ether extracts were dried over $MgSO_4$, filtered and concentrated to 48.8 g of a yellow, oily solid.

^{1}H NMR ($CDCl_3$) δ 3.0 (dd, 1H), 3.3 (m, 1H), 3.84 (t, 1H), 6.77 (d, 1H), 6.9–7.4 (m).

Step B: 5-chloro-2-(4-chlorophenyl)-2,3-dihydro-1H-inden-1-one

The crude product from Step A was combined with 50 ml of thionyl chloride and then heated at reflux for 2 hours. Thionyl chloride was removed by concentration at reduced pressure and then the mixture was concentrated several times from carbon tetrachloride. The residue was combined with 200 ml of dichloroethane, cooled under nitrogen to 0° C., and 24.5 g of aluminum trichloride was then added. After stirring overnight the reaction was poured onto a mixture of ice in 1N hydrochloric acid, extracted three times with ether and chromatographed on silica gel (10% ethyl acetate/hexane) to afford 18.6 g of a yellow oily solid.

^{1}H NMR ($CDCl_3$) δ 3.20 (dd, 1H), 3.68 (dd, 1H), 3.90 (dd, 1H), 6.9–7.6 (m), 7.75 (d, 1H).

Step C: 2-[5-chloro-2-(4-chlorophenyl)-2,3-dihydro 1H-inden-1-ylidene]-N-[4-(trifluoromethyl)phenyl]hydrazinecarboxamide

A mixture of 1.5 g of the indanone from Step B and 0.75 ml of hydrazine hydrate in 10 ml of ethanol was refluxed under N_2 overnight. The mixture was then partitioned between 5% $NaHCO_3$ and ether, the aqueous extracts were washed with chloroform and the combined chloroform/ether extracts were washed with water. The organic extracts were dried over magnesium sulfate and concentrated to 1.54 g of a yellow oil. To 0.45 g of this oil was added 10 ml of THF and 0.29 g of 4-trifluoromethylphenyl isocyanate. The mixture was then stirred under nitrogen overnight. Concentration at reduced pressure and then trituration with ether provided 0.27 g of the title compound as a yellow solid, m.p. 214° to 216° C.

^{1}H NMR ($CDCl_3$) δ 2.95 (dd, 1H), 3.74 (dd, 1H), 4.30 (dd, 1H), 7.1–7.8 (m), 8.33 (s, 1H); IR (nujol) 1680, 3190, 3360 cm^{-1}.

EXAMPLE 2

Step A: ethyl 2[5-fluoro-2-(4-fluorophenyl)-2,3-dihydro-1H-inden-1-ylidene]hydrazine carboxylate

To a mixture of 1.5 g of 5-fluoro-2-(4-fluorophenyl)-2,3-dihydro-1H-inden-1-one (prepared by a procedure analogous to Example 1, Step B) and 0.63 g of ethyl carbazate in 20 ml of methanol was added 1 drop of conc. H_2SO_4 and the reaction was refluxed under nitrogen overnight. The reaction was then partitioned between ethyl acetate and 5% aqueous $NaHCO_3$, the aqueous extracts were washed with ethyl acetate and the combined organic extracts were dried over $MgSO_4$. Concentration of the organic extract afforded 1.9 g of a yellow oil, which was triturated with ether to afford 1.27 g of a white solid, m.p. 139°–141° C.

^{1}H NMR ($CDCl_3$) δ 1.26 (t, 3H), 2.91 (dd, 1H), 3.70 (dd, 1H), 4.2 (m, 3H), 6.9–7.3 (m, 6H), 7.52 (bs, 1H), 7.93 (dd, 1H).

Step B: ethyl 2-[5-fluoro-2-(4-fluorophenyl)-2,3-dihydro-1H-inden-1-ylidene]-1-[[[4-(trifluoromethyl)phenyl]amino]carbonyl]hydrazine carboxylate

To a solution of 1.02 g of the ethyl carboxylate from Step A and 0.62 g of 4-trifluoromethylphenylisocyanate in 10 ml of THF was added 0.26 ml of triethylamine and the mixture was stirred under nitrogen overnight. The reaction was then partitioned between ethyl acetate and 5% aqueous $NaHCO_3$ and the aqueous extracts were washed twice with ethyl acetate. The organic extracts were dried over $MgSO_4$ and concentrated to 1.67 g of a yellow oil. Chromatography on silica gel afforded 0.37 g of a yellow solid m.p. 144–146.

^{1}H NMR ($CDCl_3$) δ 1.16 (t, 3H), 3.00 (dd, 1H), 3.65 (dd, 1H), 3.8–3.9 (m, 1H), 4.0–4.1 (m, 1H), 4.32 (dd, 1H), 6.85–7.2 (m, 6H), 7.60 (s, 4H), 8.05 (dd, 1H), 10.66 (s, 1H).

EXAMPLE 3

Step A: N-[4-trifluoromethyl)phenyl]hydrazine carboxamide

To a 0° C. solution of 10 ml of hydrazine hydrate and 75 ml of THF was added dropwise a solution of 6 g of 4-trifluoromethyl Phenyl isocyanate in 20 ml of THF. After 1 hr TLC indicated the reaction was complete. The reaction was partitioned between ether and water, the ether extracts were washed twice with water, dried over $MgSO_4$, and concentrated to 6.34 g of a white solid, m.p. 168°–172° C.

^{1}H NMR ($CDCl_3$) δ 3.9 (bm, 2H), 6.1 (bs, 1H), 7.56 (d, 2H), 7.61 (d, 2H), 8.4 (bs, 1H).

Step B: methyl 5-chloro-2,3-dihydro-2-methyl-1-oxo-1H-indene-2-carboxylate

To a mixture of 8.0 g of 5-chloroindanone and 4.2 ml of dimethylcarbonate in 60 ml of THF was added 4.0 g of 60% NaH and the mixture was heated to reflux under N_2 overnight. After this time the reaction was cooled to room temperature and 4.0 ml of methyl iodide was added and the mixture was reheated to reflux overnight. The reaction was then cooled and partitioned between ether and 5% aqueous $NaHCO_3$ and the aqueous extracts were washed twice with ether. The combined aqueous extracts were dried over $MgSO_4$ and concentrated to 11.24 g of a brown oil. Chromatogrpahy on silica gel (10% ethyl acetate/hexane) afforded 4.25 g of the title compound as a brown oil.

^{1}H NMR ($CDCl_3$) δ 1.52 s, 3H), 2.96 (d, 1H), 3.68 (s, 3H), 3.69 (d, 1H), 7.40 (d, 1H), 7.47 (s, 1H), 7.71 (d, 1H).

Step C: methyl 5-chloro-2,3-dihydro-2-methyl-1-[[[[4-(trifluoromethyl)phenyl]amino]carbonyl]hydrazine]-1H-indene-2-carboxylate

To a mixture of 0.92 g of the compound from Step A and 1.0 g of the compound from Step B in 10 ml of methanol was added 1 drop of conc. H_2SO_4 and the mixture was heated to reflux under N_2 overnight. The reaction was then cooled to 0° C. and the precipitate filtered, rinsed with cold methanol and dried to 0.39 g of a brown solid, m.p. 192°–194° C.

^{1}H NMR ($CDCl_3$) δ 1.70 (s, 3H), 3.00 (d, 1H), 3.82 (s, 3H), 3.87 (d, 1H), 7.3 (m, 2H), 7.6–7.8 (m, 5H), 8.38 (s, 1H), 8.98 (s, 1H).

EXAMPLE 4

Step A: 3-(4-fluorophenyl)-1-phenyl-2-propen-1-one

To a mechanically stirred solution of 5.0 g NaOH in 35 ml H_2O and 25 ml EtOH at 15° C. was added 12.0 g (0.100 mole) of acetophenone and 12.4 g (0.100 mole) of

4-fluorobenzaldehyde. After a brief exotherm to 25° C., the temperature returned to 15° C., and the cooling bath was removed. The reaction mixture was stirred at room temperature for 1.5 hour, and the thick slurry was transferred to a beaker to cool overnight at 10° C. This mixture was filtered, and the solids were washed with distilled H_2O until the washings were neutral to litmus. Upon drying in vacuo, 20.8 g of a pale yellow solid was obtained, m.p. 86°-87° C.

IR (Nujol): 1660, 1605, 1590, 1580 cm^{-1}.

^1H NMR (200 MHz, $CDCl_3$): δ 7.12 (d, J=16 Hz, 1H), 7.42-7.68 (m, 7H), 7.78 (d, J=16 Hz, 1H), 8.02 (m, 2H).

Step B:

3-(4-fluorophenyl)-2,3-dihydro-1H-indene-1-one

The title compound of Step A, Example 4, 11.3 g (0.50 mole), was added to 250 ml of mechanically-stirred polyphosphoric acid at 135° C., under a nitrogen atmosphere. This mixture was heated at 135° C. for 2 hours and then allowed to cool to 90° C. Ice water was added at such a rate as to maintain a temperature below 125° C. Once the material had become fluid, it was poured over ice and extracted with ether. The ether extracts were washed twice with saturated aqueous $NaHCO_3$ and once with brine. The ethereal solution was dried over $MgSO_4$ and concentrated at reduced pressure. The resultant residue was recrystallized from hexane/chlorobutane to afford 5.90 g of the title compound as a brown powder, m.p. 117°-120° C.

IR (Nujol): 1705 (s), 1600 (br, m)

^1H NMR (200 MHz, $CDCl_3$) δ 2.64 (dd, 1H), 3.22 (dd, 1H), 4.57 (dd, 1H), 6.96-7.15 (m, 4H), 7.25 (m, 1H), 7.44 (m, 1H), 7.58 (m, 1H), 7.81 (m, 1H).

Step C:

2-[3-(4-fluorophenyl)-2,3-dihydro-1H-inden-1-ylidene]-N-[4-(trifluoromethyl)phenyl]hydrazine carboxamide

The title compound of Step B, Example 4, 2.26 g (0.010 mole), was combined with 0.60 ml of hydrazine monohydrate (0.012 mole) in 30 ml of methanol and heated at reflux for 2 to 2.5 hours. The reaction mixture was concentrated at reduced pressure, and the resultant residue was dissolved in ethyl acetate and washed with saturated aqueous $NaHCO_3$, H_2O, and brine. The organic phase was dried over $MgSO_4$ and concentrated in vacuo to afford 2.37 g of crude material. This material was dissolved in 30 ml of dry THF, and a 10 ml aliquot of this solution was added to a solution of 0.62 g (0.0033 mole) of 4-(trifluoromethyl)phenyl isocyanate in 20 ml of dry THF. After this mixture was stirred overnight under a nitrogen atmosphere, it was concentrated in vacuo. The resultant residue was triturated with hexanes and filtered to obtain 1.23 g of an off-white product, m.p. 253°-255° C.

^1H NMR (200 MHz, d_6-DMSO): δ 2.74 (dd, 1H), 3.38 (dd, 1H), 4.65 (dd, 1H), 7.0-7.16 (m, 5H), 7.33-7.37 (m, 2H), 7.63-7.67 (m, 2H), 7.91-7.95 (m, 2H), 8.08 (m, 1H), 9.30 (s, NH), 10.00 (s, NH).

EXAMPLE 5

Step A: ethyl 4-fluoro-α-methylenebenzeneacetate

Sodium ethoxide solution was prepared by portionwise addition of sodium pieces (1.5 g, 0.065 mol) to ethanol (50 ml). To this solution was added first, 8.9 ml (0.065 mol) of diethyloxalate in one portion and second, 10 g (0.059 mol) of methyl 4-fluorobenzeneacetate dropwise at such a rate as to keep the reaction mixture at 25° C. After stirring at room temperature for 2 hrs, the ethanol was concentrated and the residue taken up in toluene. The toluene solution was concentrated and the solid residue was taken up in ether and 10% aqueous acetic acid. After stirring at room temperature for 1 hr the mixture was separated and the aqueous phase extracted twice with ether. The combined ether phases were washed once with saturated aqueous $NaHCO_3$ solution, dried ($MgSO_4$), and concentrated. The NMR of the crude product was complicated by a mixture of methyl and ethyl esters.

The crude diester was combined with 25 ml of water and 8 ml of 37% formalin solution. To this somewhat heterogeneous mixture was added a solution of 6.5 g of K_2CO_3 in 36 ml of water, dropwise as such a rate as to maintain a temperature of about 25° C. The reaction was stirred vigorously for three hours to mix the fine emulsion. Ether was added and the aqueous phase was separated and extracted three times with ether. The combined ether phases were dried ($MgSO_4$) and concentrated to a colorless oil (11 g, 96% yield).

^1H NMR ($CDCl_3$) δ: 7.41 (2H, m), 7.03 (2H, m), 6.34 (1H, s), 5.85 (1H, s), 4.28 (2H, q, J=7 Hz), 1.32 (3H, t, J=7 Hz).

Step B: ethyl 4-fluoro-α-[[(2-fluorophenyl)thio]methyl]benzeneacetate

The crude product from Step A (3.9 g, 20 mmole) was taken up in 20 ml of ethanol. To this solution, being stirred at room temperature, was added 2-fluorothiophenol (2.5 g, 20 mmole) and 50 mg of solid sodium ethoxide. After stirring for eight hours the ethanol was concentrated and the residue taken up in ether. The ether mixture was washed twice with 15% NaOH solution, dried ($MgSO_4$) and concentrated to a colorless oil (5.3 g, 82% yield).

^1H NMR ($CDCl_3$) δ: 7.28)4H, m), 7.06 (4H, m), 4.13 (2H, m), 3.72 (1H, m), 3.55 (1H, m), 3.20 (1H, dd, J=6, 12 Hz), 1.21 (3H, t, J=6 Hz).

Step C:

4-fluoro-α-[[(2-fluorophenyl)thio]methyl]-benzeneacetic acid

The crude ester from Step B (5.3 g, 16 mmole) was combined with 20 ml of 88% formic acid and 2.1 ml (33 mmole) of methane sulfonic acid. The emulsion was refluxed for five hours during which time it gradually became homogeneous. After cooling, water and methylene chloride were added and the aqueous phase was separated and extracted twice with methylene chloride. The organic phases were combined, dried ($MgSO_4$) and concentrated. The crude residue was taken up in 4% ethyl acetate/hexane and filtered through a plug of silica gel to remove nonpolar impurities. The product acid was then rinsed from the silica gel with ethyl acetate and the solvent concentrated. The acid was a colorless solid (4.5 g, 95% yield).

^1H NMR ($CDCl_3$) δ: 10.05 (1H, br s), 7.20 (5H, m), 7.03 (3H, m), 3.81 (1H, dd, J=6, 8 Hz), 3.57 (1H, m), 3.23 (1H, dd, J=6, 12 Hz).

Step D:

8-fluoro-3-(4-fluorophenyl)-2.3-dihydro-4H-1-benzothiopyran-4-one

The acid from Step C (4.5 g, 15 mmole) was dissolved in 30 ml of thionyl chloride and refluxed for four hours.

After cooling the thionyl chloride was concentrated and the residue taken up in carbon tetrachloride. The carbon tetrachloride was concentrated and the residue was taken up in 30 ml of dichloroethane. To the dichloroethane solution being cooled in an ice bath, was added aluminum trichloride (total of 2.1 g, 16 mmole) in three portions every 15 min. After stirring the black solution for an additional 30 min at 0° C., a 5% aqueous HCl solution was added. The aqueous phase was separated and extracted twice with methylene chloride. The organic phases were combined, dried ($MgSO_4$), and concentrated to give the crude product as a yellow oil (3.4 g, 82% yield).

^{1}H NMR ($CDCl_3$) δ: 7.97 (1H, dd, J=3, 9 Hz), 7.19 (6H, m), 4.12 (1H, dd, J=4, 12 Hz), 3.58 (1H, m), 3.32 (1H, ddm J=4, 12 Hz).

Step E:

2H-[8-fluoro-3-(4-fluorophenyl)-3,4-dihydro-2H-1-benzothiopyran-4-ylidene]N-[4-trifluoromethyl)-phenyl]-hydrazinecarboxamide

The thiochromanone from Step D (1.1 g 4.0 mmole) was treated according to the procedure in Example 1 Step C to give the desired product as a white powder (0.32 g, 17% yield). m.p.=217°-219° C. ^{1}H NMR ($CDCl_3$) δ: 8.33 (1H, s), 7.98 (1H, d, J=9 Hz), 7.69 (1H, s) 7.60 (4H, AB, J_{AB}=8 Hz), 7.15 (6H, m), 4.42 (1H, t, J=4 Hz), 3.44 (1H, dd, J=4, 12 Hz), 2.99 (1H, dd, J=4, 12 Hz).

EXAMPLE 6

Step A: methyl 6-fluoro-1,2,3,4-tetrahydro-1-oxo-2-naphthalenecarboxylate

Hexane washed sodium hydride (3.5 g of 60%, 88 mmole) was covered with 75 ml of tetrahydrofuran and 5.4 ml (64 mmole) of dimethylcarbonate was added in one portion. The solution was heated to reflux and 6-fluoro-3,4-dihydro-1(2H)-naphthlenone (7.2 g, 44 mmole) in 25 ml of tetrahydrofuran was added dropwise while maintaining reflux. After the addition was complete, the reaction was refluxed for 1.5 hours. The reaction was then cooled in an ice bath and 10% aqueous HCl solution was carefully added. The solution was diluted with ether and the aqueous Phase was separated and extracted twice with ether. The combined organic phases were dried ($MgSO_4$) and concentrated. The crude product was a pale yellow solid (9.6 g, 98% yield).

^{1}H NMR ($CDCl_3$) δ: 7.99 (1H, dd, J=6,8 Hz), 6.95 (2H, m) 3.83 (3H, s), 3.82 (1H, m), 2.81 (2H, m), 2.58 (2H, m). NMR complicated by signals from enol tautomer.

Step B: methyl 6-fluoro-1,2,3,4-tetrahydro-1-oxo-2-phenyl-2naphthalenecarboxylate

The tetralone from Step A (2.4 g, 10.8 mmole) and triphenylbismuth dichloride (5.8 g, 11.3 mmole) were dissolved in 50 ml of benzene. 1,8-Diazabicyclo-[5.4.0]-undec-7-ene (1.8 ml, 11.8 mmole) was added and the pale yellow solution was heated at reflux for 12 hours. The benzene solution was decanted from the gray sludge. The sludge was in turn triturated twice with ether and twice with acetone. The combined benzene, ether, and acetone phases were washed once with water, dried ($MgSO_4$), and concentrated. The resulting residue was flash chromatographed on silica gel eluting with 10% acetone/hexane. Purified product was obtained in 90% yield (2.9 g) as a viscous oil which solidified on standing.

^{1}H NMR ($CDCl_3$) δ: 8.17 (1H, dd, J=8,10 Hz), 7.31 (5H, m) 7.02 (1H, dt, J=3,8 Hz), 6.85 (1H, dd, J=3,9 Hz), 3.75 (3H, s), 2.94 (2H, m), 2.89 (2H, m).

Step C:

6-fluoro-3,4-dihydro-2-phenyl-1(2H)-naphthalenone

The tetralone from Step B (2.8 g, 9.4 mmole) was dissolved in 45 ml of dimethylformamide. To this solution was added lithium chloride (2.0 g, 47 mmole) and water (0.42 ml, 23 mmole). The reaction mixture was heated to 150° C. for 2.5 hrs and then cooled and partitioned between ether and water. The aqueous Phase was separated and extracted three times with ether. The combined organic phases were washed once with water, dried ($MgSO_4$), and concentrated (1.96 g, 87% yield).

^{1}H NMR ($CDCl_3$) δ: 8.13 (1H, dd, J=6,10 Hz), 7.31 (5H, m) 6.99 (2H, m), 3.80 (1H, m), 3.07 (2H, m), 2.43 (2H, m).

Step D:

2-(6-fluoro-1,2,3,4-tetrahydro-2-phenyl-1-naphthalenylidene)-N-[4-(trifluoromethyl)-phenyl]hydrazinecarboxamide

The crude product from Step C (0.65 g, 2.7 mmole) was treated according to the procedure in Example 1, Step C. The product was obtained as a white powder (0.26 g, 22% yield). m.p.=158°-160° C.

^{1}H NMR ($CDCl_3$) δ: 8.45 (1H, s), 8.15 (1H, d, J=9 Hz), 7.98 (1H, s), 7.61 (5H, m), 7.29 (2H, m), 7.18 (2H, m), 6.92 (1H, dd, J=3,9 Hz), 6.75 (1H, d, J=3 Hz), 4.18 (1H, m), 2.64 (2H, m), 2.31 (1H, m), 2.10 (1H, m).

EXAMPLE 7

Step A:

4-Chloro-2-(2-methoxy-1-methyl-2-oxoethoxy)-benzoic acid, methyl ester

A solution of methyl 4-chlorosalicylate (5.0 g) in dimethylformamide (10 ml) was treated sequentially with methyl 3-bromopropionate (4.0 g) and potassium carbonate (6.0 g). The mixture was stirred at room temperature for 18 hrs and diluted with water. The mixture was extracted with ether and the organics were washed with water. The organic layer was dried and evaporated to give the desired material (6.7 g) as a low melting solid.

NMR: 7.8 (d, 1H), 7.2 (m 1H), 6.9 (m, 1H), 4.8 (q, 1H), 3.9 (s, 3H), 3.8 (s, 3H), 1.7 (d, 3H).

Step B: 6-chloro-2-methyl-3(2H)-benzofuranone

A mixture of the compound of Example 7, Step A, (6.7 g) and sodium hydride (60% in oil, 1.5 g) was heated to reflux in tetrahydrofuran (50 ml). It was then allowed to cool to room temperature over 1.5 hrs. The cooled mixture was treated with aqueous ammonium chloride solution and ether. The ether solution was dried over magnesium sulfate and then evaporated. The oil was subjected to chromatography on silica gel with hexanes/ethyl acetate (25:1) as the eluent. The desired product (1.99 g) was obtained as a low melting solid.

NMR: 7.6 (d, 1H), 7.1 (m 2H), 4.7 (q, 1H), 1.55 (d, 3H).

Step C:
(Z)-2-(6-chloro-2-methyl-3(2H)-benzofuranylidene)-N-[4-(trifluoromethyl)phenyl]-hydrazinecarboxamide

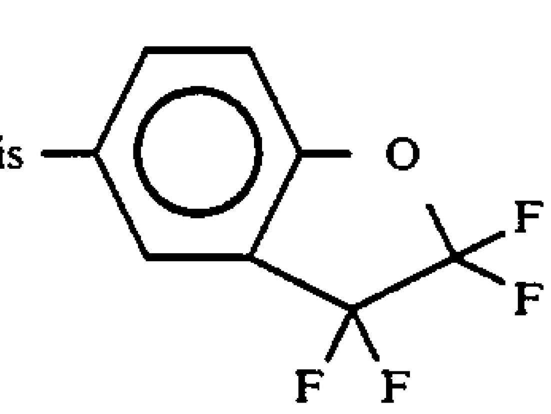
The compound of Example 7, Step B, (1.9 g) was dissolved in ethanol (15 ml) and degassed with nitrogen. Then hydrazine hydrate (1.2 ml) was added and the mixture was heated at reflux for 1.5 hrs and evaporated to dryness. The residue was chromatographed on silica in hexanes/ethyl acetate (2:1). The first product eluted was the hydrazone syn to the methyl group (0.5 g). The next fraction (0.9 g) was mixed syn and anti. Pure anti hydrazone was eluted last (0.5 g). The syn hydrazone was treated with p-trifluoromethylphenylisocyanate (0.4 ml) in ether (10 ml). The desired material began to crystallize soon after mixing. The mixture was filtered and washed with ether to provide a solid (0.8 g). m.p.: 196°-198° C. NMR: 10.0 (br, 1H), 9.4 (br, 1H), 8.2-7.0 (m, 7H), 5.35 (m, 1H), 1.6 (d, 3H).

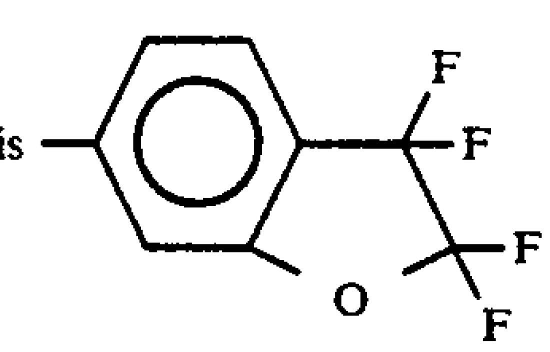
Step D:
(E)-2-(6-chloro-2-methyl-3(2H)-benzofuranylidene)-N-[4-(trifluoromethyl)phenyl)-hydrazinecarboxamide

Treating the anti hydrazone (0.5 g) obtained in Step C with p-trifluoromethylphenylisocyanate (0.4 ml) in the same manner as in Step C resulted in the isolation of the desired product as a solid (0.8 g). m.p.=205°-207° C. NMR: (10.4 (br, NH), 9.4 (br, 1H), 8.2-7.0 (m, 7H), 5.8 (m, 1H), 1.47 (d, 3H).

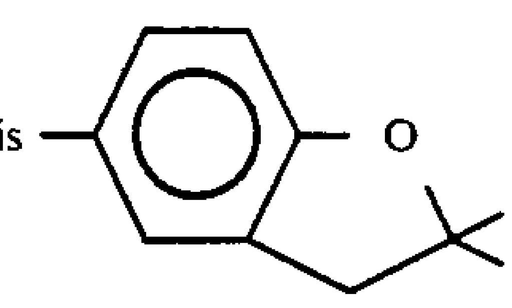
By the general procedures described herein and obvious modifications known to one skilled in the art. one can prepare the compounds of Tables 1 to 16. The compounds of Tables 1 through 10 are listed along with their melting points.

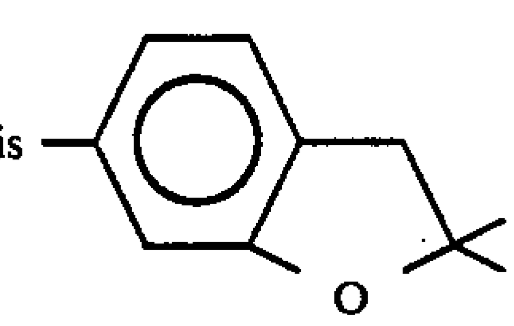
In Tables 1 through 16 the following notations have been used:

1. 3,4-CF_2CF_2O is 

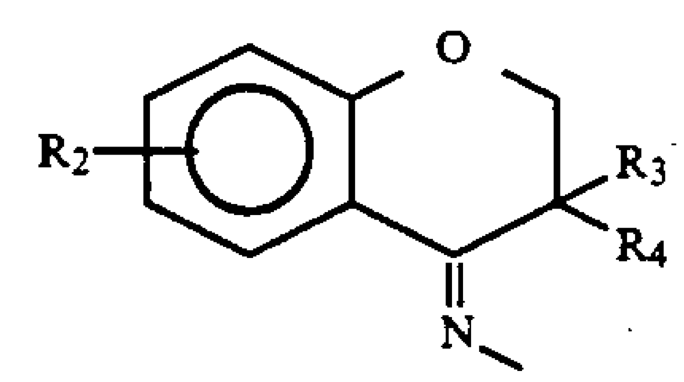
2. 2,4-OCF_2CF_2 is 

-continued

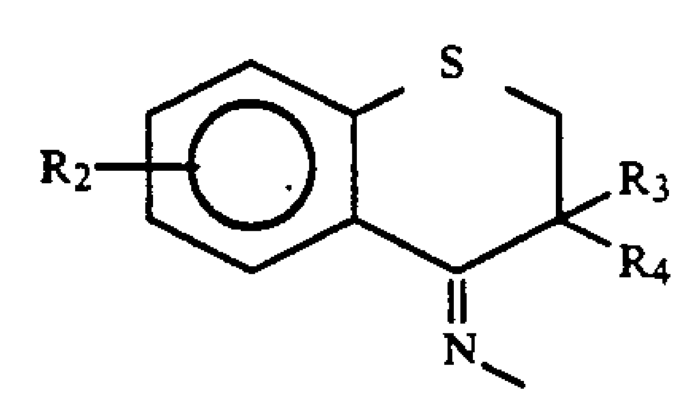
3. 3,4-$CH_2C(Me)_2O$ is 

4. 3,4-$OC(Me)_2CH_2$ is 

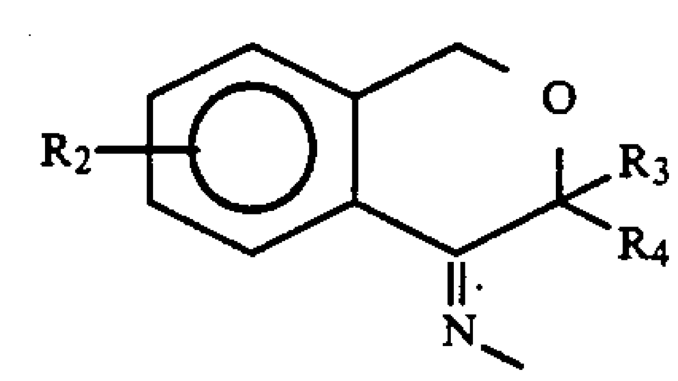
5. When A is OCH_2 or SCH_2, the compounds of Formula I are, respectively,



or



6. When A is CH_2O or CH_2S, the compounds of Formula I are, respectively,



or

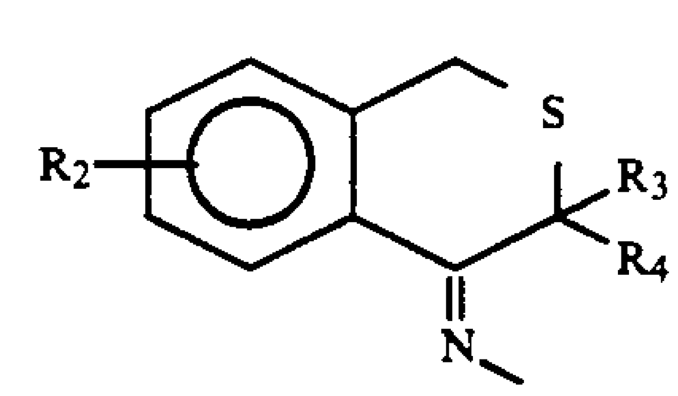
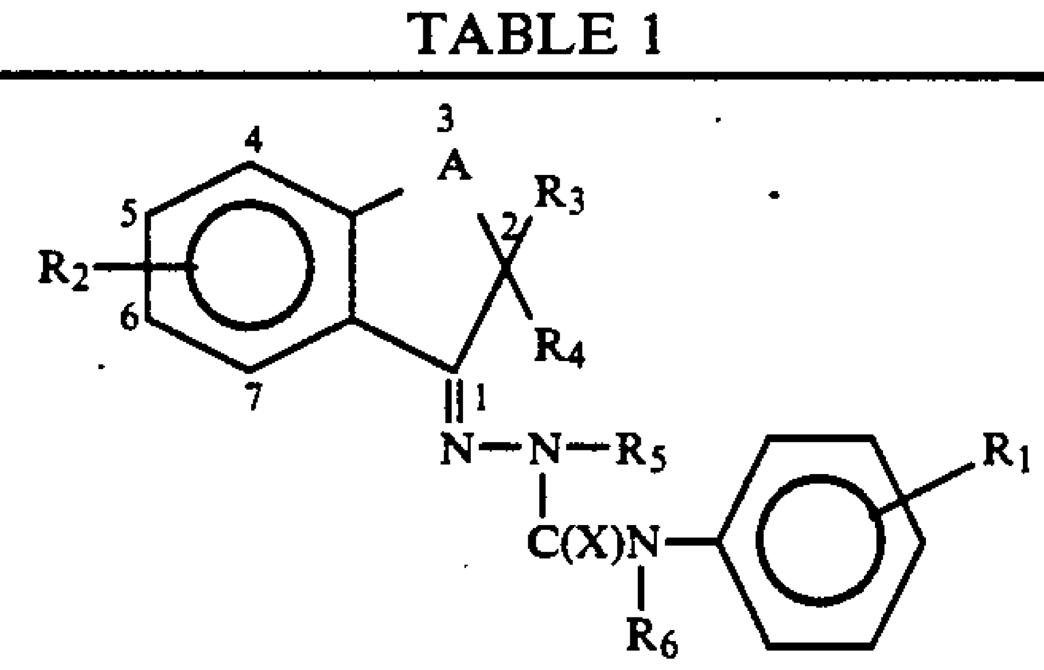


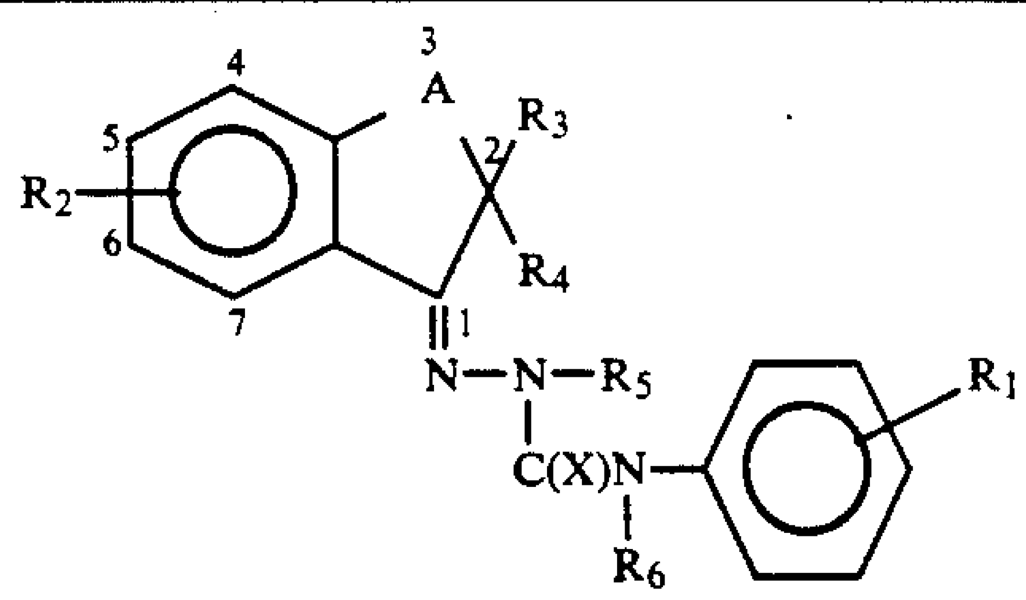
TABLE 1



(A = CH_2, X = O)

CMPD	R_1	R_2	R_3	R_4	R_5	R_6	m.p. °C.
1	4-CF_3	5-Cl	4-Cl—Ph	H	H	H	214-216
2	4-Br	5-Cl	4-Cl—Ph	H	H	H	230-232
3	4-OMe	5-Cl	4-Cl—Ph	H	H	H	202-204

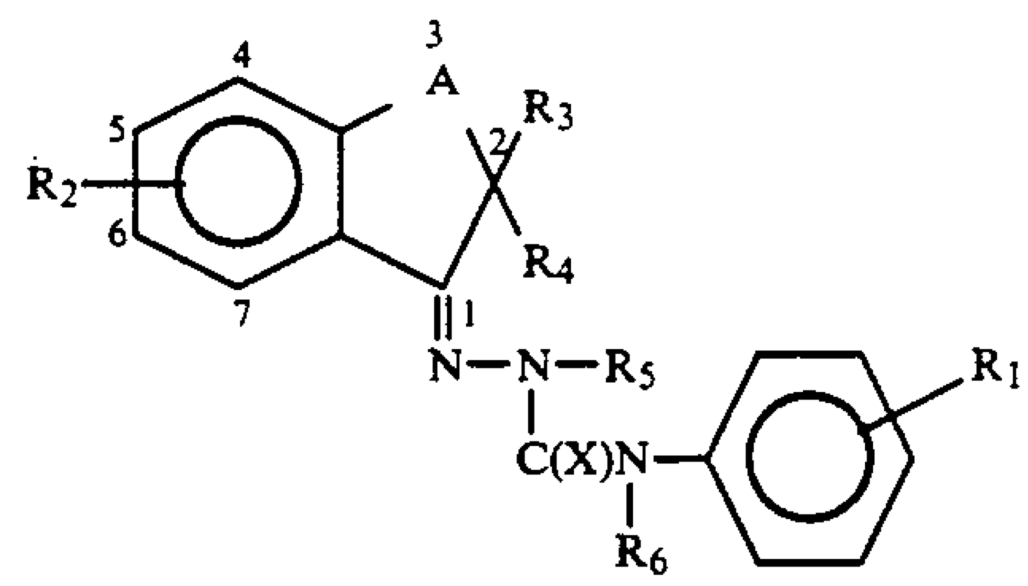
TABLE 1-continued



(A = CH_2, X = O)

CMPD	R_1	R_2	R_3	R_4	R_5	R_6	m.p. °C.
4	4-Cl	5-Cl	4-Cl—Ph	H	H	H	231-233
5	4-CF_3	5-Cl	Ph	H	H	H	226-228
6	4-Br	5-Cl	Ph	H	H	H	237-238
7	4-OCF_3	5-Cl	Ph	H	H	H	198-200
8	4-CF_3	5-Cl	4-F—Ph	H	H	H	223-225
9	4-Cl	5-Cl	4-F—Ph	H	H	H	224-226
10	4-Br	5-Cl	4-F—Ph	H	H	H	230-232
11	4-CF_3	5-F	4-Cl—Ph	H	H	H	214-216
12	4-Cl	5-F	4-Cl—Ph	H	H	H	218-220
13	4-Br	5-F	4-Cl—Ph	H	H	H	223-225
14	4-CF_3	5-F	4-F—Ph	H	H	H	224-226
15	4-Cl	5-F	4-F—Ph	H	H	H	212-214
16	4-Br	5-F	4-F—Ph	H	H	H	219-221
17	4-OCF_3	5-F	4-F—Ph	H	H	H	201-203
18	4-CF_3	5-F	Ph	H	H	H	230-232
19	4-Cl	5-F	Ph	H	H	H	233-235
20	4-Br	5-F	Ph	H	H	H	236-238
21	4-OCF_3	5-F	Ph	H	H	H	187-190
22	4-CF_3	5-OMe	Ph	H	H	H	219-221
23	4-OCF_3	5-OMe	Ph	H	H	H	189-191
24	4-CF_3	5-OMe	4-F—Ph	H	H	H	197-199
25	4-CF_3	5-OCH_2CF_3	4-F—Ph	H	H	H	217-219
26	4-OCF_3	5-OCH_2CF_3	4-F—Ph	H	H	H	204-206
27	4-CF_3	5-O-i-Pr	4-F—Ph	H	H	H	198-201
28	4-CF_3	5-OPh	4-F—Ph	H	H	H	224-226
29	4-CF_3	5-OEt	4-F—Ph	H	H	H	206-208
30	4-OCF_3	5-OEt	4-F—Ph	H	H	H	195-197
31	4-Cl	H	Ph	H	H	H	220-221
32	4-Br	H	Ph	H	H	H	231-232
33	4-CF_3	H	Ph	H	H	H	223-224
34	4-Cl	H	4-F—Ph	H	H	H	197-201
35	4-CF_3	5-OH	Ph	H	H	H	240-242
36	4-CF_3	5-Br	4-F—Ph	H	H	H	218-220
37	4-Br	5-Br	4-F—Ph	H	H	H	227-229
38	4-CF_3	5-F	3-CF_3—Ph	H	H	H	225-227
39	4-Br	5-F	3-CF_3—Ph	H	H	H	221-223
40	4-CF_3	5-F	2-F—Ph	H	H	H	218-220
41	4-Br	5-F	2-F—Ph	H	H	H	231-233
42	4-CF_3	5-F	3-F—Ph	H	H	H	210-212
43	4-Br	5-F	3-F—Ph	H	H	H	218-220
44	4-CF_3	5-F	2,4-di-F—Ph	H	H	H	219-221
45	4-Br	5-F	2,4-di-F—Ph	H	H	H	214-216
46	4-CF_3	5-F	4-OEt—Ph	H	H	H	184-186
47	4-CF_3	5-F	4-Me—Ph	H	H	H	219-221
48	4-Br	5-F	4-Me—Ph	H	H	H	227-229
49	4-CF_3	5-F	2-naphthyl	H	H	H	229-230
50	4-Br	5-F	2-naphthyl	H	H	H	230-232
51	4-CF_3	5-F	3,4-di-Cl—Ph	H	H	H	214-216
52	4-CF_3	4-F	Ph	H	H	H	214-216
53	4-Br	4-F	Ph	H	H	H	222-224
54	4-CF_3	4-F	4-Cl—Ph	H	H	H	236-238
55	4-OCF_3	4-F	4-Cl—Ph	H	H	H	209-211
56	2,4-di-Cl	5-Cl	Ph	H	H	H	>250
57	H	5-Cl	Ph	H	H	H	209-211
58	4-NO_2	5-Cl	Ph	H	H	H	>250
59	3,4-di-Cl	5-F	4-F—Ph	H	H	H	132-136
60	2,4-di-F	5-F	4-F—Ph	H	H	H	213-215
61	4-F	5-F	4-F—Ph	H	H	H	216-218
62	4-CF_3	6-F	4-Cl—Ph	H	H	H	237-239
63	4-Cl	6-F	4-Cl—Ph	H	H	H	236-238
64	4-Br	6-F	4-Cl—Ph	H	H	H	238-240
65	4-CF_3	7-Cl	Ph	H	H	H	124-125
66	4-CF_3	4,5-di-F	4-F—Ph	H	H	H	233-235
67	4-OCF_3	4,5-di-F	4-F—Ph	H	H	H	224-226
68	4-Br	4,5-di-F	4-F—Ph	H	H	H	229-231
69	4-CF_3	5-Cl	4-Cl—Ph	Me	H	H	165-169
70	4-Br	5-Cl	4-Cl—Ph	Me	H	H	149-153

TABLE 1-continued

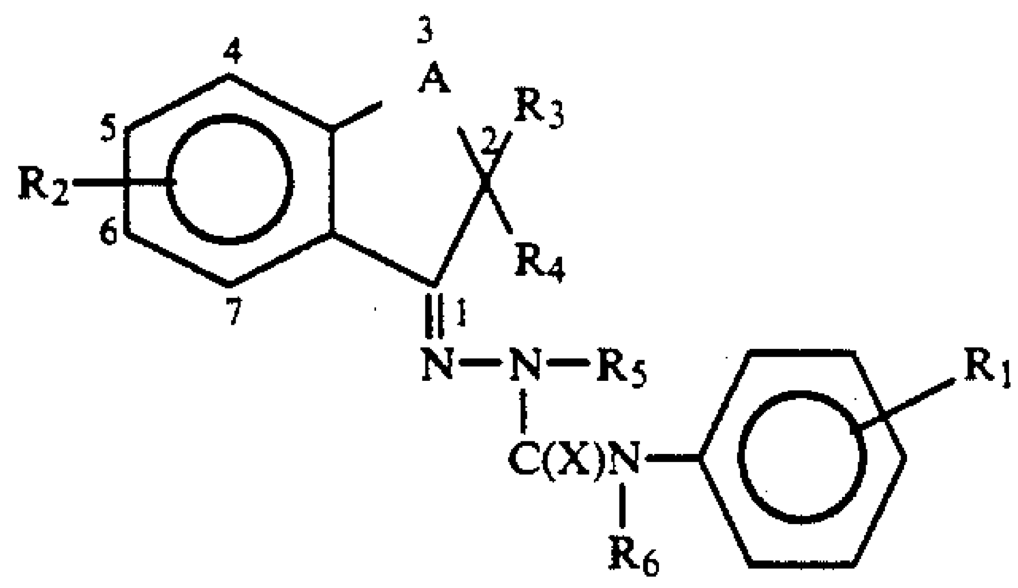


(A = CH_2, X = O)

CMPD	R_1	R_2	R_3	R_4	R_5	R_6	m.p. °C.
71	4-OMe	5-Cl	4-Cl—Ph	Me	H	H	187-190
72	4-CF_3	5-F	4-F—Ph	Me	H	H	85-89
73	4-Br	5-F	4-F—Ph	Me	H	H	70-74
74	4-CF_3	5-Cl	H	H	H	H	240-242
75	4-Br	5-Cl	H	H	H	H	244-246
76	4-Cl	5-Cl	H	H	H	H	248-249
77	4-CF_3	5-Cl	Me	H	H	H	208-210
78	4-Cl	5-Cl	Me	H	H	H	221-223
79	4-Br	5-Cl	Me	H	H	H	228-230
80	4-CF_3	7-Cl	Me	H	H	H	>250
81	4-CF_3	5-F	Me	H	H	H	218-220
82	4-Cl	5-F	Me	H	H	H	219-221
83	4-Br	5-F	Me	H	H	H	224-226
84	4-CF_3	5-OMe	Et	H	H	H	191-193
85	4-OCF_3	5-OMe	Et	H	H	H	178-180
86	4-CF_3	5-Cl	CO_2Me	H	H	H	242-244
87	4-CF_3	5-F	CO_2Me	H	H	H	238-240
88	4-CF_3	5-Cl	CO_2Me	Me	H	H	192-194
89	4-CF_3	5-F	CO_2Me	Me	H	H	203-205
90	4-CF_3	5-Cl	i-Pr	H	H	H	216-218
91	4-OCF_3	5-Cl	i-Pr	H	H	H	204-206
92	4-CF_3	5-OCH_2CF_3	Me	H	H	H	212-214
93	4-OCF_3	5-OCH_2CF_3	Me	H	H	H	189-191
94	4-Cl	5-OCH_2CF_3	Me	H	H	H	220-222
95	4-CF_3	5-Cl	Me	Me	H	H	215-217
96	4-Br	5-Cl	Me	Me	H	H	214-216
97	4-Cl	5-Cl	Me	Me	H	H	203-205
98	4-CF_3	5-F	i-Pr	H	H	H	216-220
99	4-Br	5-F	i-Pr	H	H	H	217-222
100	4-CF_3	5-F	H	H	H	H	>245
101	4-Cl	5-F	H	H	H	H	240-242
102	4-Br	5-F	H	H	H	H	>245
103	4-CF_3	5-F	4-F—Ph	H	C(O)Me	H	oil
104	4-OCF_3	5-F	4-F—Ph	H	C(O)Me	H	oil
105	4-CF_3	5-F	4-F—Ph	H	CO_2Me	H	oil
106	4-CF_3	5-F	2,4-di-Ph	H	CO_2Me	H	oily solid
107	4-CF_3	5-F	4-F—Ph	H	CO_2Et	H	144-146
108	4-Br	H	4-F—Ph	H	H	H	204-207
109	4-CF_3	H	4-F—Ph	H	H	H	212-213
110	4-Cl	4-Cl	Ph	H	H	H	234-239
111	4-Br	4-Cl	Ph	H	H	H	283-285
112	4-CF_3	4-Cl	Ph	H	H	H	205-209
113	4-CF_3	5-Me	4-Cl—Ph	H	H	H	210-214
114	4-Br	5-Me	4-Cl—Ph	H	H	H	260-262
115	4-Cl	5-Me	4-Cl—Ph	H	H	H	270-272
116	4-CF_3	4-Cl	4-F—Ph	H	H	H	wax
117	4-Br	4-Cl	4-F—Ph	H	H	H	wax
118	4-Cl	4-Cl	4-F—Ph	H	H	H	wax
119	4-CF_3	5-F	CH_2Ph-4-F	CH_2Ph-4-F	H	H	76-81
120	4-Cl	5-F	CH_2Ph-4-F	CH_2Ph-4-F	H	H	84-89

65

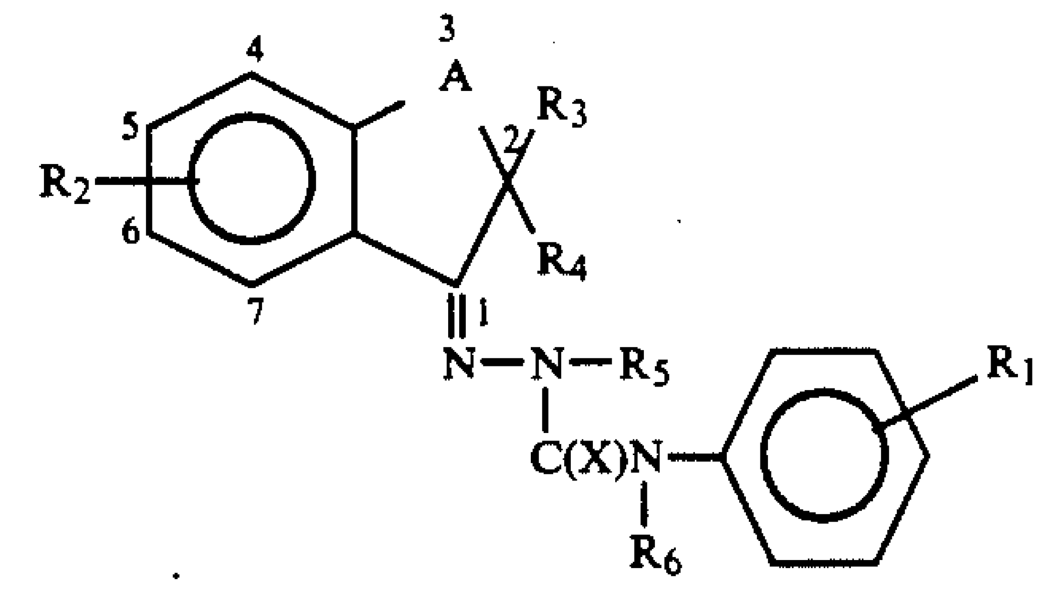
TABLE 2



(A = CH_2CH_2, X = O)

CMPD	R_1	R_2	R_3	R_4	R_5	R_6	m.p. °C.
121	4-Br	5-Cl	Ph	H	H	H	209–210
122	4-CF_3	5-Cl	Ph	H	H	H	217–218
123	4-Cl	5-Cl	4-Br—Ph	H	H	H	236–238
124	4-Br	5-Cl	4-Br—Ph	H	H	H	248–250
125	4-CF_3	5-Cl	4-Br—Ph	H	H	H	245–247
126	4-Cl	5-Cl	4-OMe—Ph	H	H	H	209–210
127	4-Br	5-Cl	4-OMe—Ph	H	H	H	216–217
128	4-CF_3	5-Cl	4-OMe—Ph	H	H	H	226–228
129	4-Cl	5-Cl	Me	H	H	H	236–238
130	4-Br	5-Cl	Me	H	H	H	230–235
131	4-CF_3	5-Cl	Me	H	H	H	234–235
132	4-CF_3	5-Cl	CO_2Me	H	H	H	220–222
133	4-Br	5-Cl	4-F—Ph	H	H	H	221–222
134	4-CF_3	5-Cl	4-F—Ph	H	H	H	233–234
135	4-CF_3	5-Cl	H	H	Me	H	114–117
136	4-Cl	4-F	Me	H	H	H	233–236
137	4-Br	4-F	Me	H	H	H	236–239
138	4-CF_3	4-F	Me	H	H	H	235–237
139	4-Cl	5-F	Ph	H	H	H	179–184
140	4-Br	5-F	Ph	H	H	H	185–192
141	4-CF_3	5-F	Ph	H	H	H	158–160
142	4-CF_3	4-F	CO_2Me	H	H	H	203–204
143	4-CF_3	5-F	4-F—Ph	H	H	H	179–180
144	4-CF_3	5-F	4-Cl—Ph	H	H	H	225–230
145	4-Cl	5-F	Me	H	H	H	200–210
146	4-Br	5-F	Me	H	H	H	196–198
147	4-CF_3	5-F	Me	H	H	H	195–198
148	4-CF_3	H	CO_2Me	H	H	H	207–208
149	4-CF_3	H	CO_2Me	H	Me	H	oil
150	4-CF_3	H	H	H	H	H	230–232
151	4-CF_3	H	4-Cl—Ph	H	H	H	228–230

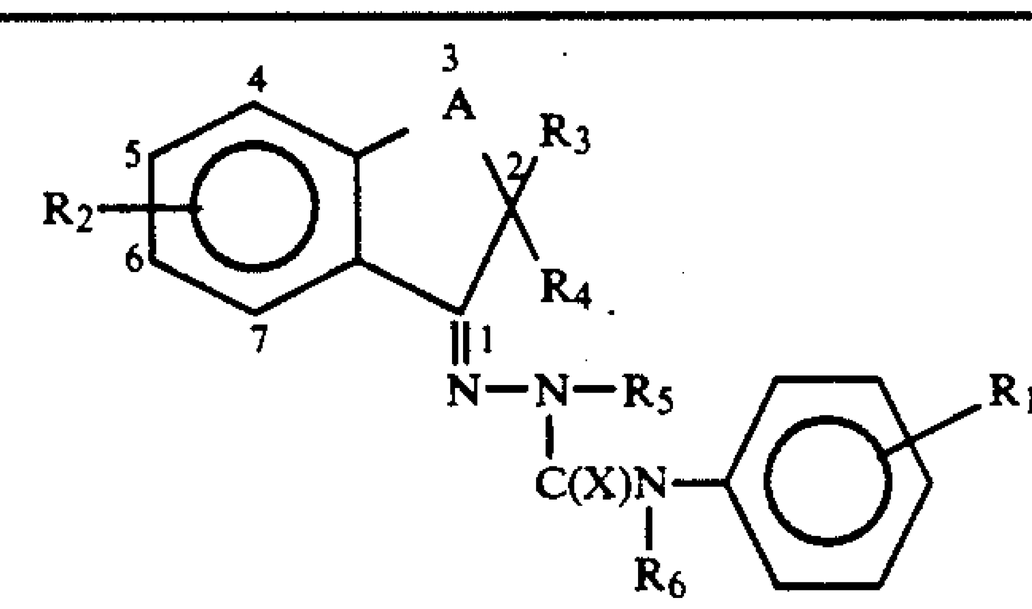
TABLE 2-continued



(A = CH_2CH_2, X = O)

CMPD	R_1	R_2	R_3	R_4	R_5	R_6	m.p. °C.
152	4-OMe	H	4-Cl—Ph	H	H	H	191–193
153	4-F	H	4-Cl—Ph	H	H	H	204–205
154	3-CF_3	H	4-Cl—Ph	H	H	H	199–200
155	3-CO_2Et	H	4-Cl—Ph	H	H	H	205–206
156	4-F,3-Cl	H	4-Cl—Ph	H	H	H	210–212
157	4-CF_3	5-Br	H	H	H	H	253–255
158	4-CF_3	5-F	H	H	H	H	257–259

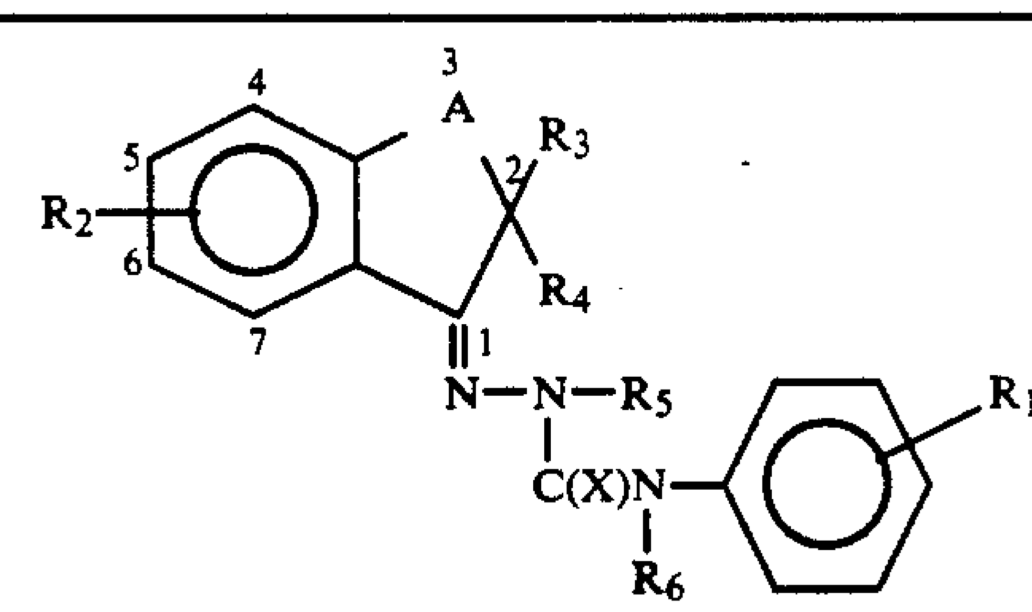
TABLE 3



(A = $(CH_2)_3$, X = O)

CMPD	R_1	R_2	R_3	R_4	R_5	R_6	m.p. °C.
159	4-CF_3	5-Cl	H	H	H	H	224–225
160	4-Cl	5-Cl	H	H	H	H	211–213
161	4-Br	5-Cl	H	H	H	H	210–213
162	4-CF_3	5-Cl	Me	H	H	H	174–176

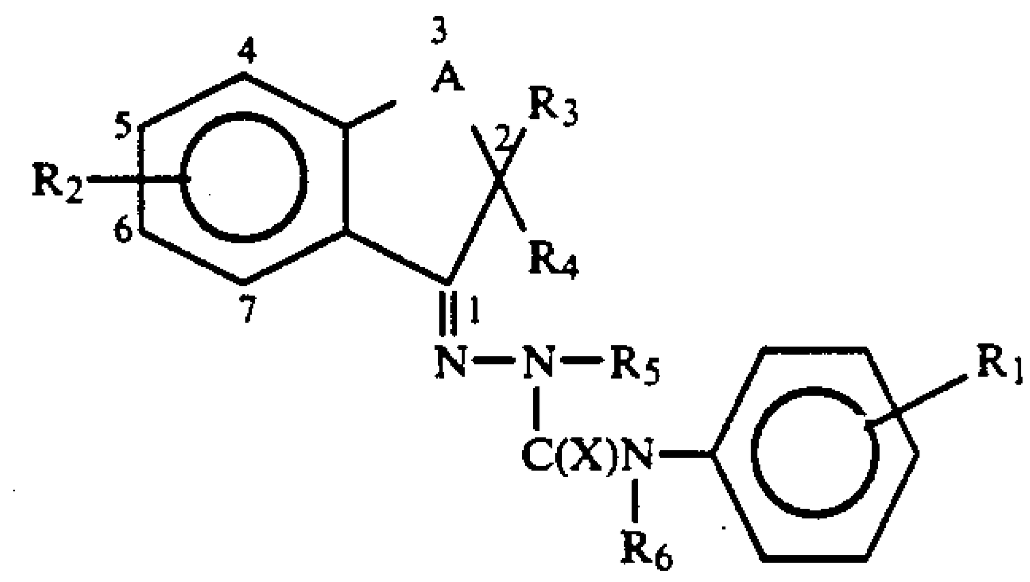
TABLE 4



(X = O)

CMPD	R_1	R_2	R_3	R_4	R_5	R_6	A	m.p. °C.
163	4-Cl	H	Me	Me	H	H	O	177–182
164	4-CF_3	H	Me	Me	H	H	O	186–188
165	4-CF_3	5-Cl	Me	Me	H	H	O	214–217
166	4-Cl	5-Cl	Me	Me	H	H	O	204–207
167	4-Br	5-Cl	Me	Me	H	H	O	204–208
168	4-CF_3	4-F	Me	Me	H	H	O	203–206
169	4-Cl	4-F	Me	Me	H	H	O	193–196
170	4-Br	4-F	Me	Me	H	H	O	194–198
171	4-CF_3	5-Cl	Me	4-F—Ph	H	H	O	219–220
172	4-Cl	5-Cl	Me	4-F—Ph	H	H	O	209–211
173	4-CF_3	H	Me	Ph	H	H	O	174–176
174	4-Cl	H	Me	Ph	H	H	O	165–167
175	4-Br	H	Me	Ph	H	H	O	165–166
176	4-CF_3	5-Cl	Me	Et	H	H	O	190–192
177	4-CF_3	5-Cl	Me	allyl	H	H	O	150–152
178	4-Cl	5-Cl	Me	allyl	H	H	O	142–145
179	4-CF_3	5-CF_3	Me	Me	H	H	O	234–236

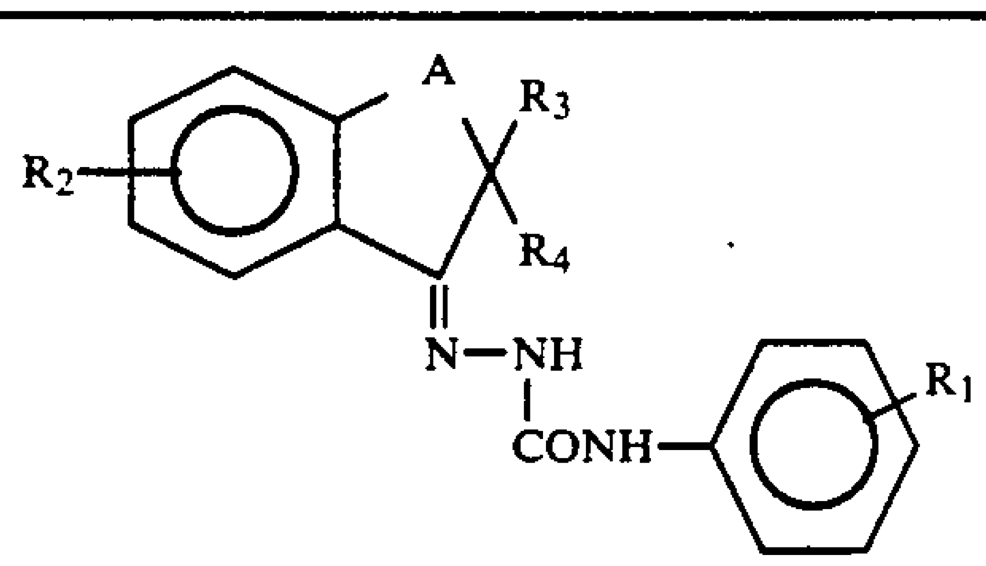
TABLE 4-continued



(X = O)

CMPD	R_1	R_2	R_3	R_4	R_5	R_6	A	m.p. °C.
180	4-OCF_3	5-CF_3	Me	Me	H	H	O	196-199
181	4-OCF_3	5-Cl	Me	allyl	H	H	O	128-130
182	4-Cl	H	Me	Me	Me	Me	O	155-158
183	4-Cl	H	Me	Me	Me	H	O	wax
184	4-CF_3	H	Ph	Me	Me	Me	O	128-130
185	4-CF_3	H	Me	Me	H	H	S	193-197
186	4-Cl	H	Me	Me	Me	Me	S	192-193

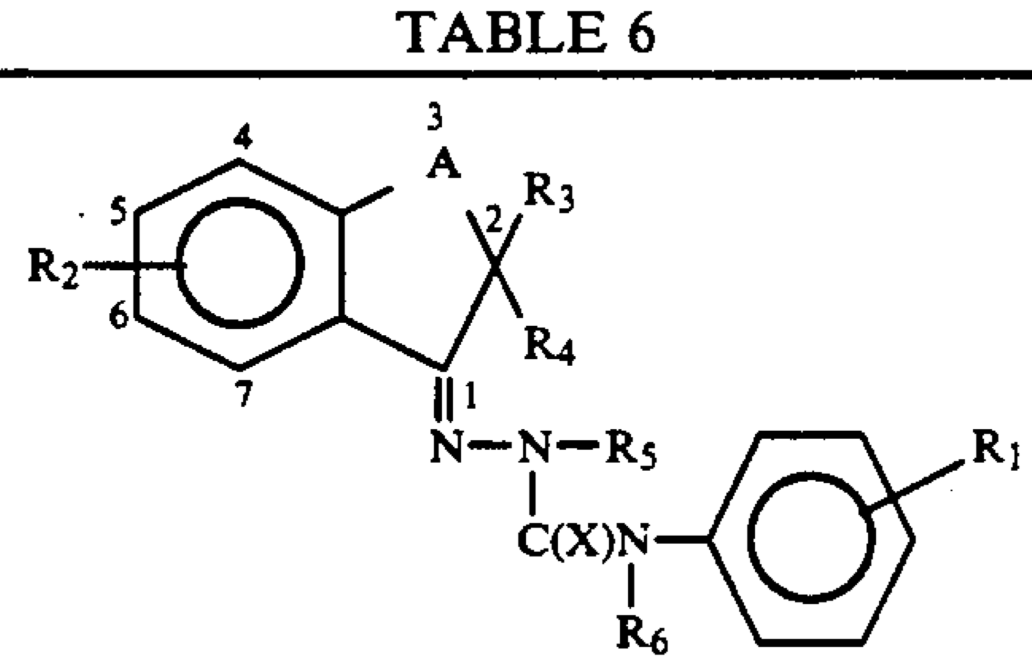
TABLE 5



(A = O)

CMPD	R_1	R_2	R_3	R_4	syn/anti	m.p. °C.
187	4-CF_3	H	Me	H	syn	179-180
188	4-CF_3	H	Me	H	anti	212-213
189	4-CF_3	5-Cl	Me	H	syn	196-198
190	4-CF_3	5-Cl	Me	H	anti	205-207
191	4-Br	H	Me	H	mix	193-196
192	4-Br	5-Cl	Me	H	mix	195-200
193	4-CF_3	H	i-Pr	H	syn	201-202
194	4-CF_3	H	i-Pr	H	anti	181-183
195	4-Cl	H	i-Pr	H	syn	151-153
196	4-Cl	H	i-Pr	H	mix	203-205
197	4-Br	H	i-Pr	H	mix	200-205
198	4-CF_3	5-Cl	i-Pr	H	syn	195-196
199	4-Br	5-Cl	i-Pr	H	mix	197-199
200	4-Cl	5-Cl	i-Pr	H	anti	192-196
201	4-CF_3	5-Cl	i-Pr	H	mix	196-200

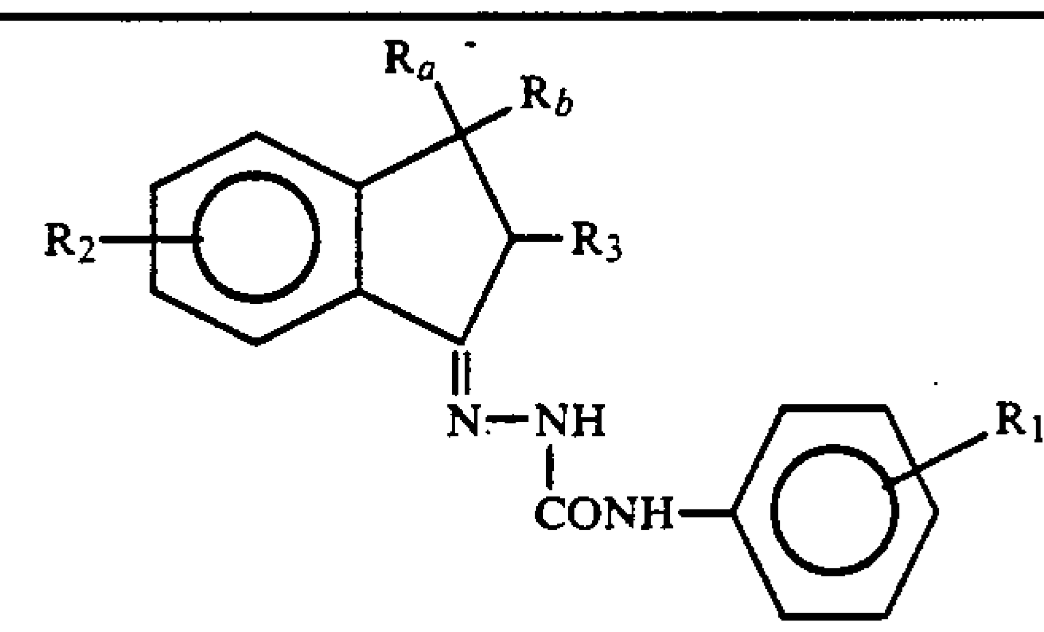
TABLE 6



(A = CH_2, X = S)

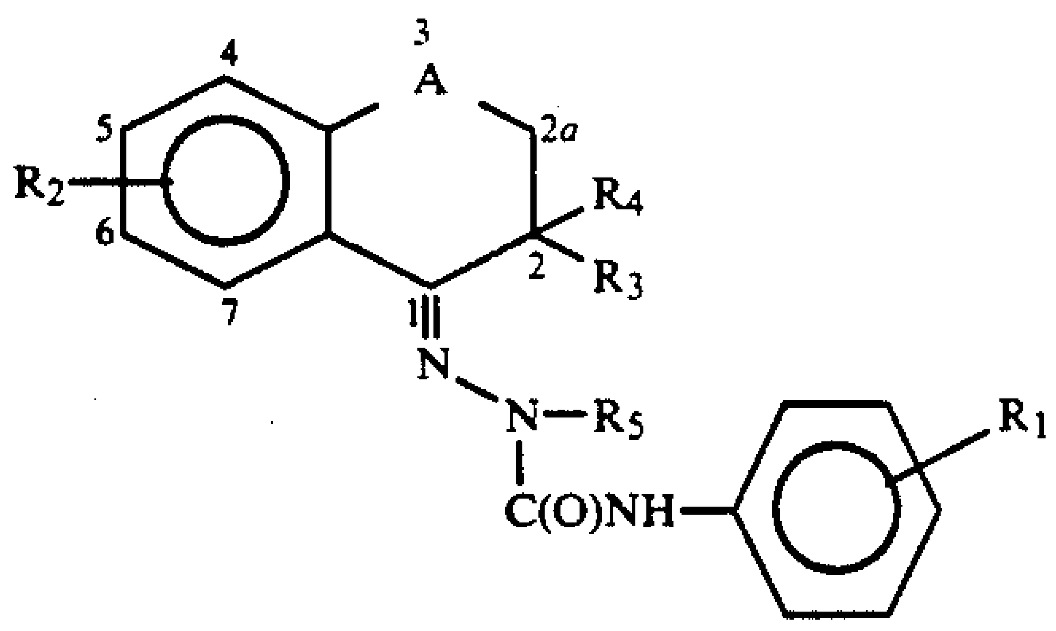
CMPD	R_1	R_2	R_3	R_4	R_5	R_6	m.p. °C.
202	4-CF_3	5-F	4-F—Ph	H	H	H	192-194
203	4-CF_3	5-F	Ph	H	H	H	154-156
204	4-Cl	5-F	4-F—Ph	H	H	H	182-184
205	4-Br	5-Cl	Ph	H	H	H	192-194

TABLE 7



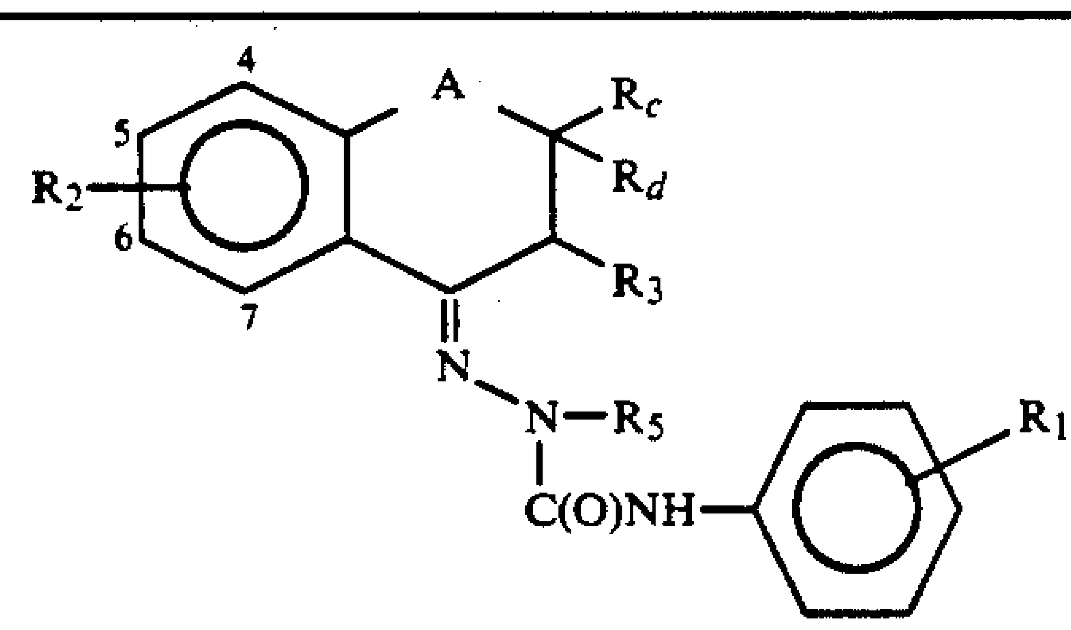
CMPD	R_1	R_2	R_3	R_a	R_b	m.p. °C.
206	4-CF_3	5-F	4-F—Ph	Me	H	218-220
207	4-CF_3	5-Cl	H	i-Pr	H	238-240
208	4-CF_3	5-F	H	Me	H	241-243
209	4-OCF_3	5-F	H	Me	H	211-213
210	4-CF_3	H	H	Me	Me	222-223
211	4-Cl	H	H	Me	Me	215-216
212	4-CF_3	5-F	H	Me	Me	198-201
213	4-F	5-F	H	Me	Me	201.5-205
214	4-CF_3	H	H	Ph	H	248.5-250
215	4-Cl	H	H	Ph	H	253-254
216	4-CF_3	H	H	Ph	Me	207-209
217	4-Cl	H	H	Ph	Me	203-205
218	4-CF_3	H	H	4-Cl—Ph	H	243.5-245
219	4-Cl	H	H	4-Cl—Ph	H	242.5-244
220	4-CF_3	5-Cl	H	Ph	H	246-248
221	4-Br	5-Cl	H	Ph	H	256-258
222	4-CF_3	5-Cl	H	4-Cl—Ph	H	235-238
223	4-Br	5-Cl	H	4-Cl—Ph	H	260-262
224	4-CF_3	H	H	4-F—Ph	H	253-255
225	4-Cl	H	H	4-F—Ph	H	249-250
226	4-F	H	H	4-F—Ph	H	244-246
227	4-CF_3	5-F	H	Ph	H	>250
228	4-Cl	5-F	H	H	H	>250
229	4-CF_3	4-Cl	H	4-F—Ph	H	252.5-253
230	4-Cl	4-Cl	H	4-F—Ph	H	260-261
231	4-CF_3	4-Cl	H	4-F—Ph	Me	176-179
232	4-CF_3	4-F	H	4-F—Ph	H	242-244
233	4-Cl	4-F	H	4-F—Ph	H	248-250

TABLE 8



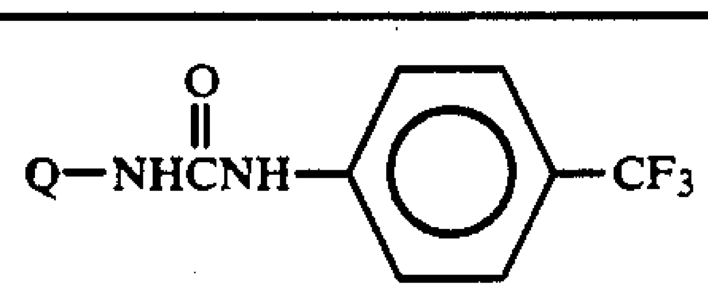
CMPD	R_1	R_2	R_3	R_4	R_5	A	m.p. °C.
234	4-Cl	5-Cl	Ph	H	H	O	180–182
235	4-Br	5-Cl	Ph	H	H	O	189–191
236	$4\text{-}CF_3$	5-Cl	Ph	H	H	O	211–212
237	4-Cl	5-Cl	4-F—Ph	H	H	O	171–173
238	4-Br	5-Cl	4-F—Ph	H	H	O	187–189
239	$4\text{-}CF_3$	5-Cl	4-F—Ph	H	H	O	180–185
240	$4\text{-}CF_3$	5-F	Ph	H	H	O	197–200
241	4-Br	5-F	4-F—Ph	H	H	O	glass
242	$4\text{-}CF_3$	5-F	4-F—Ph	H	H	O	glass
243	4-Cl	5-Cl	4-F—Ph	H	H	S	216–218
244	4-Br	5-Cl	4-F—Ph	H	H	S	219–221
245	$4\text{-}CF_3$	5-Cl	4-F—Ph	H	H	S	>220
246	4-Cl	5-Cl	Ph	H	H	S	194–196
247	4-Br	5-Cl	Ph	H	H	S	210–212
248	$4\text{-}CF_3$	5-Cl	Ph	H	H	S	205–208
249	4-Cl	5-Cl	4-Cl—Ph	H	H	S	184–186
250	4-Br	5-Cl	4-Cl—Ph	H	H	S	199–201
251	$4\text{-}CF_3$	5-Cl	4-Cl—Ph	H	H	S	207–210
252	4-Cl	4-F	4-F—Ph	H	H	S	216–218
253	4-Br	4-F	4-F—Ph	H	H	S	218–220
254	$4\text{-}CF_3$	4-F	4-F—Ph	H	H	S	217–219
255	4-Cl	4-F	Ph	H	H	S	195–197
256	$4\text{-}CF_3$	4-F	Ph	H	H	S	208–210
257	4-Cl	5-F	4-F—Ph	H	H	S	209–211
258	4-Br	5-F	4-F—Ph	H	H	S	215–217
259	$4\text{-}CF_3$	5-F	4-F—Ph	H	H	S	202–204
260	$4\text{-}CF_3$	H	H	H	H	$C(Me)_2$	206–210
261	4-Cl	H	H	H	H	$C(Me)_2$	208–212
262	4-OMe	H	H	H	H	$C(Me)_2$	177–180
263	$4\text{-}CF_3$	H	H	H	H	S	230–235

TABLE 9



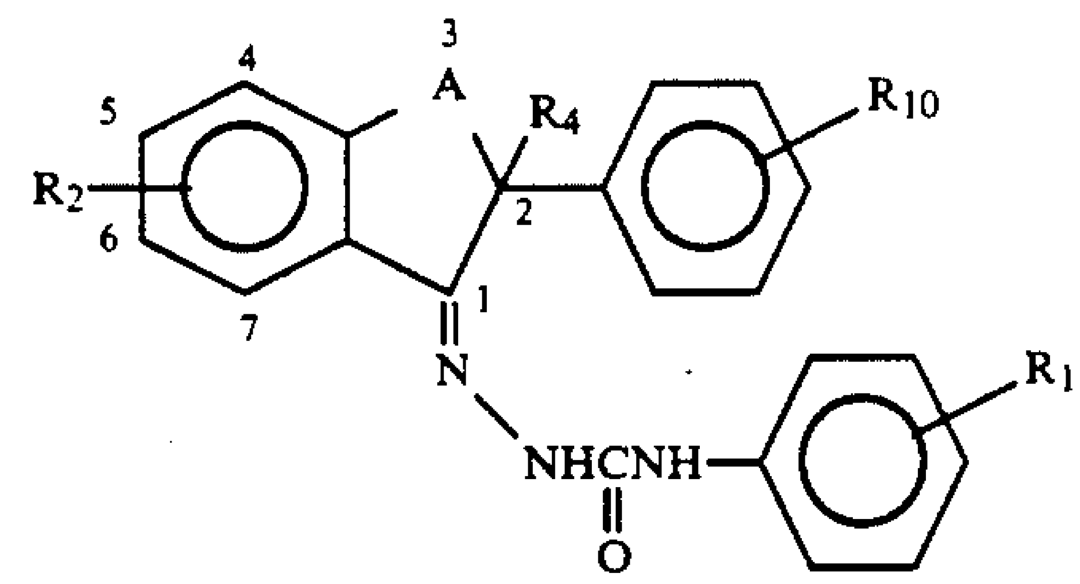
CMPD	R_1	R_2	R_3	R_5	R_c	R_d	A	m.p. °C.
264	$4\text{-}CF_3$	5-Cl	H	H	Me	Me	S	151–153
265	$4\text{-}CF_3$	5-Cl	H	Me	Me	H	S	>250
266	$4\text{-}CF_3$	5-Cl	H	H	H	Me	S	234–235
267	$4\text{-}CF_3$	5-Cl	H	H	Me	Me	0	253–255

TABLE 10



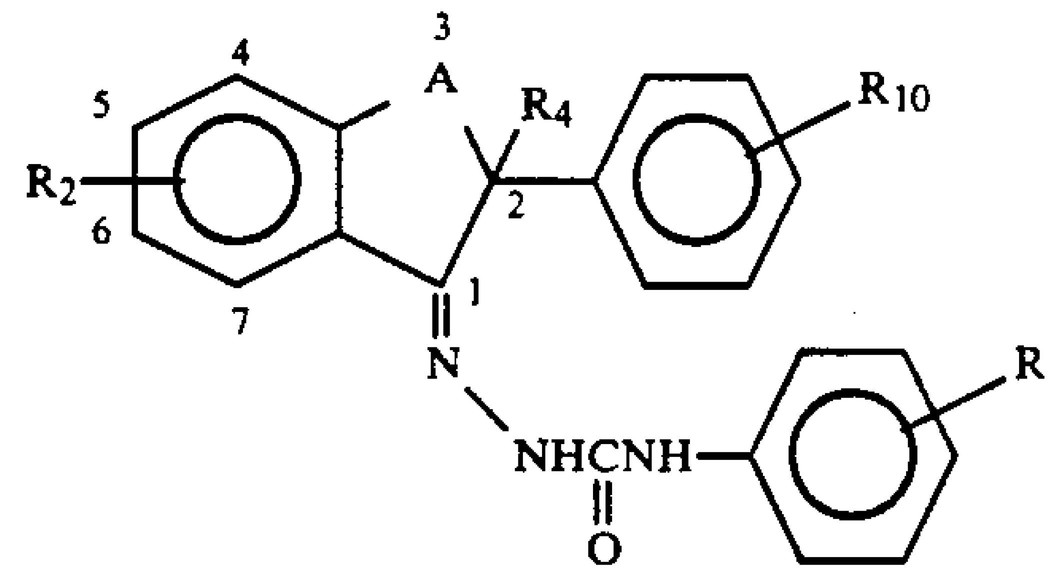
CMPD	Q	V	A	R_2	R_3	R_4	m.p. °C.
268	Q-5	—	CH_2CH_2	H	H	H	173–174
269	Q-6	S	CH_2CH2	H	H	H	248–249

TABLE 11



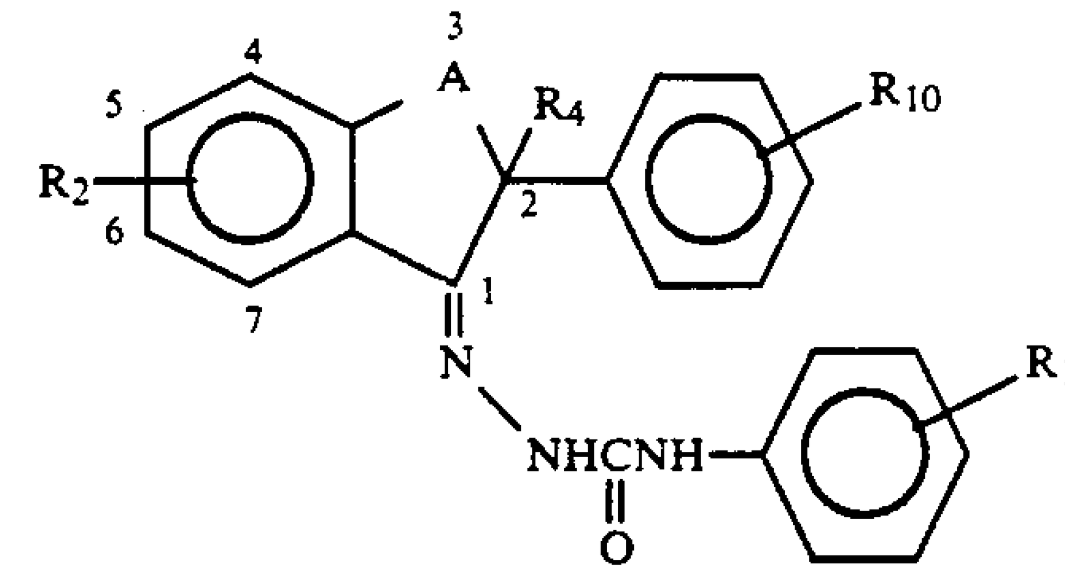
R_1	R_2	R_4	R_{10}	A
4-F	4-F	H	H	CH_2
4-Cl	4-F	H	H	CH_2
$4\text{-}OCF_3$	4-F	H	H	CH_2
$4\text{-}OCF_2$	4-F	H	H	CH_2
3,4-di-Cl	4-F	H	H	CH_2
4-CN	4-Cl	H	H	CH_2
$4\text{-}CO_2Me$	4-Cl	H	H	CH_2
$4\text{-}OCF_2H$	4-Cl	H	H	CH_2
$4\text{-}OCF_3$	4-Cl	H	H	CH_2
4-F	5-F	H	H	CH_2
$4\text{-}OCF_2H$	5-F	H	H	CH_2
$4\text{-}OCF_2CF_2H$	5-F	H	H	CH_2
$4\text{-}NO_2$	5-F	H	H	CH_2
$4\text{-}SCF_2H$	5-F	H	H	CH_2
4-CN	5-F	H	H	CH_2
$3,4\text{-}CF_2CF_2O$	5-F	H	H	CH_2
$3,4\text{-}CH_2C(Me)_2O$	5-F	H	H	CH_2
4-F	5-Cl	H	H	CH_2
4-Cl	5-Cl	H	H	CH_2
$4\text{-}OCF_2H$	5-Cl	H	H	CH_2
$4\text{-}NO_2$	5-Cl	H	H	CH_2
$4\text{-}SCF_2H$	5-Cl	H	H	CH_2
4-CN	5-Cl	H	H	CH_2
$3,4\text{-}CF_2CF_2O$	5-Cl	H	H	CH_2
$3,4\text{-}CH_2C(Me)_2O$	5-Cl	H	H	CH_2
4-Cl	5-Br	H	H	CH_2
4-Br	5-Br	H	H	CH_2
$4\text{-}CF_3$	5-Br	H	H	CH_2
$4\text{-}OCF_2H$	5-Br	H	H	CH_2
$4\text{-}OCF_3$	5-Br	H	H	CH_2
4-Cl	5-CN	H	H	CH_2
4-Br	5-CN	H	H	CH_2
$4\text{-}CF_3$	5-CN	H	H	CH_2
$4\text{-}OCF_2H$	5-CN	H	H	CH_2
$4\text{-}OCF_3$	5-CN	H	H	CH_2
4-Cl	5-OMe	H	H	CH_2
4-Br	5-OMe	H	H	CH_2
$4\text{-}CF_3$	$5\text{-}CF_3$	H	H	CH_2
4-Cl	$5\text{-}CF_3$	H	H	CH_2
4-Br	$5\text{-}CF_3$	H	H	CH_2
$4\text{-}OCF_3$	$5\text{-}CF_3$	H	H	CH_2
$4\text{-}OCF_2H$	$5\text{-}CF_3$	H	H	CH_2
$4\text{-}OCF_2H$	$5\text{-}OCF_2H$	H	H	CH_2
$4\text{-}OCF_3$	$5\text{-}OCF_2H$	H	H	CH_2
$4\text{-}CF_3$	$5\text{-}OCF_2H$	H	H	CH_2
4-Cl	$5\text{-}OCF_2H$	H	H	CH_2
4-Br	$5\text{-}OCF_2H$	H	H	CH_2
$4\text{-}OCF_2H$	$5\text{-}OCF_3$	H	H	CH_2
$4\text{-}OCF_3$	$5\text{-}OCF_3$	H	H	CH_2
$4\text{-}CF_3$	$5\text{-}OCF_3$	H	H	CH_2
4-Cl	$5\text{-}OCF_3$	H	H	CH_2
4-Br	$5\text{-}OCF_3$	H	H	CH_2
$4\text{-}OCF_2H$	5-OPh	H	H	CH_2
$4\text{-}OCF_3$	5-OPh	H	H	CH_2
$4\text{-}CF_3$	5-OPh	H	H	CH_2
4-Cl	5-OPh	H	H	CH_2
4-Br	5-OPh	H	H	CH_2
$4\text{-}CF_3$	5-SMe	H	H	CH_2
4-Cl	5-SMe	H	H	CH_2
4-Br	5-SMe	H	H	CH_2
$4\text{-}CF_3$	6-F	H	H	CH_2
4-Cl	6-F	H	H	CH_2
4-Br	6-F	H	H	CH_2
$4\text{-}CF_3$	6-Cl	H	H	CH_2
4-Cl	6-Cl	H	H	CH_2
4-Br	6-Cl	H	H	CH_2
$4\text{-}SCF_2H$	5-F	H	4-F	CH_2
4-F	5-F	H	4-F	CH_2
4-CN	5-F	H	4-F	CH_2

TABLE 11-continued



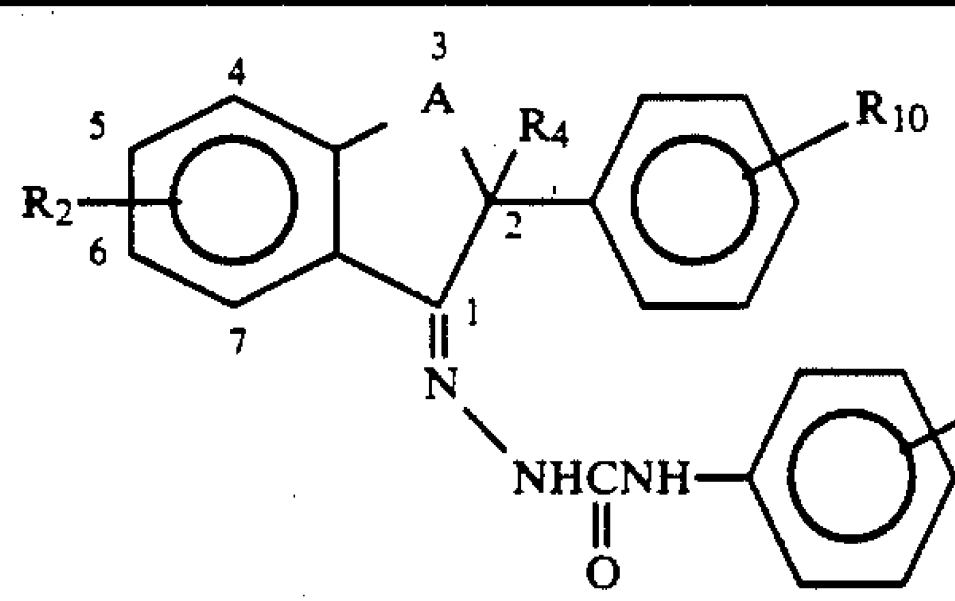
R_1	R_2	R_4	R_{10}	A
4-OCF_2CF_2H	5-F	H	4-F	CH_2
4-OCF_3	5-F	H	4-F	CH_2
3,4-di-Cl	5-F	H	4-F	CH_2
3,4-CF_2CF_2O	5-F	H	4-F	CH_2
3,4-$CH_2C(Me)_2O$	5-F	H	4-F	CH_2
4-OCF_2H	5-F	H	4-Cl	CH_2
4-OCF_3	5-F	H	4-Cl	CH_2
4-Cl	5-F	H	4-NO_2	CH_2
4-Br	5-F	H	4-NO_2	CH_2
4-CF_3	5-F	H	4-NO_2	CH_2
4-OCF_2H	5-F	H	4-NO_2	CH_2
4-OCF_2	5-F	H	4-NO_2	CH_2
4-Cl	5-F	H	4-CN	CH_2
4-Br	5-F	H	4-CN	CH_2
4-CF_3	5-F	H	4-CN	CH_2
4-OCF_2H	5-F	H	4-CN	CH_2
4-OCF_3	5-F	H	4-CN	CH_2
4-Cl	5-F	H	4-OMe	CH_2
4-Br	5-F	H	4-OMe	CH_2
4-CF_3	5-F	H	4-OMe	CH_2
4-OCF_2H	5-F	H	4-OMe	CH_2
4-OCF_3	5-F	H	4-OMe	CH_2
4-Cl	5-F	H	4-CF_3	CH_2
4-Br	5-F	H	4-CF_3	CH_2
4-CF_3	5-F	H	4-CF_3	CH_2
4-OCF_3	5-F	H	4-CF_3	CH_2
4-OCF_2H	5-F	H	4-CF_3	CH_2
4-CF_3	5-F	H	4-OCF_2H	CH_2
4-Cl	5-F	H	4-OCF_2H	CH_2
4-Br	5-F	H	4-OCF_2H	CH_2
4-OCF_2H	5-F	H	4-OCF_2H	CH_2
4-OCF_3	5-F	H	4-OCF_2H	CH_2
4-OCF_2CF_2H	5-Cl	H	4-F	CH_2
4-F	5-Cl	H	4-F	CH_2
4-OCF_3	5-Cl	H	4-F	CH_2
4-OCF_2H	5-Cl	H	4-F	CH_2
4-NO_2	5-Cl	H	4-F	CH_2
3,4-di-Cl	5-Cl	H	4-F	CH_2
3,4-$CH_2C(Me)_2O$	5-Cl	H	4-F	CH_2
3,4-CF_2CF_2O	5-Cl	H	4-F	CH_2
4-OCF_3	5-Cl	H	4-Cl	CH_2
4-OCF_2H	5-Cl	H	4-Cl	CH_2
3,4-CF_2CF_2O	5-Cl	H	4-Cl	CH_2
3,4-$CH_2C(Me)_2O$	5-Cl	H	4-Cl	CH_2
4-CN	5-Cl	H	4-Cl	CH_2
4-F	5-Cl	H	4-Cl	CH_2
4-NO_2	5-Cl	H	4-Cl	CH_2
H	5-Cl	H	4-Cl	CH_2
4-CF_3	5-CF_3	H	4-F	CH_2
4-OCF_3	5-CF_3	H	4-F	CH_2
4-Cl	5-CF_3	H	4-F	CH_2
4-Br	5-CF_3	H	4-F	CH_2
4-OCF_2H	5-CF_3	H	4-F	CH_2
4-CF_3	5-CF_3	H	4-Cl	CH_2
4-OCF_3	5-CF_3	H	4-Cl	CH_2
4-Cl	5-CF_3	H	4-Cl	CH_2
4-Br	5-CF_3	H	4-Cl	CH_2
4-OCF_2H	5-CF_3	H	4-Cl	CH_2
4-CF_3	5-OCF_2H	H	4-F	CH_2
4-Cl	5-OCF_2H	H	4-F	CH_2
4-Br	5-OCF_2H	H	4-F	CH_2
4-OCF_3	5-OCF_2H	H	4-F	CH_2
4-CF_3	5-OCF_2H	H	4-Cl	CH_2
4-Cl	5-OCF_2H	H	4-Cl	CH_2
4-Br	5-OCF_2H	H	4-Cl	CH_2
4-OCF_3	5-OCF_2H	H	4-Cl	CH_2
4-CF_3	4-F	H	4-F	CH_2
4-Cl	4-F	H	4-F	CH_2
4-Br	4-F	H	4-F	CH_2

TABLE 11-continued



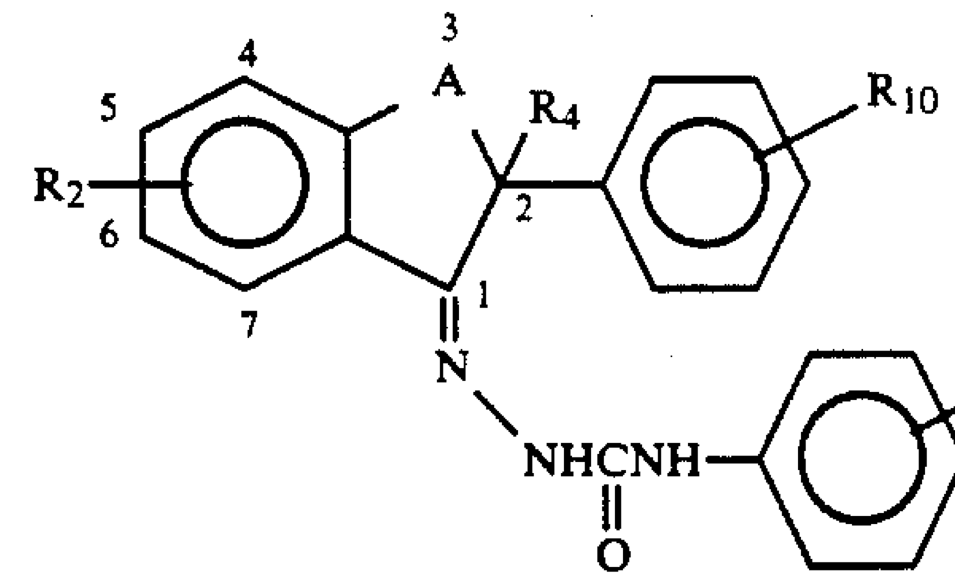
R_1	R_2	R_4	R_{10}	A
4-OCF_3	4-F	H	4-F	CH_2
4-CF_3	4-F	H	4-Cl	CH_2
4-Cl	4-F	H	4-Cl	CH_2
4-Br	4-F	H	4-Cl	CH_2
4-CF_3	4-Cl	H	4-Cl	CH_2
4-Cl	4-Cl	H	4-Cl	CH_2
4-Br	4-Cl	H	4-Cl	CH_2
4-OCF_3	4-Cl	H	4-Cl	CH_2
4-CF_3	4-Cl	H	4-F	CH_2
4-Cl	4-Cl	H	4-F	CH_2
4-Br	4-Cl	H	4-F	CH_2
4-OCF_3	4-Cl	H	4-F	CH_2
4-CF_3	5-Cl	H	4-CF_3	CH_2
4-Cl	5-Cl	H	4-CF_3	CH_2
4-Br	5-Cl	H	4-CF_3	CH_2
4-OCF_3	5-Cl	H	4-CF_3	CH_2
4-OCF_2H	5-Cl	H	4-CF_3	CH_2
4-CF_3	5-Cl	H	4-SMe	CH_2
4-Cl	5-Cl	H	4-SMe	CH_2
4-Br	5-Cl	H	4-SMe	CH_2
4-OCF_3	5-Cl	H	4-SMe	CH_2
4-CF_3	5-Cl	H	4-NO_2	CH_2
4-Cl	5-Cl	H	4-NO_2	CH_2
4-Br	5-Cl	H	4-NO_2	CH_2
4-OCF_2H	5-Cl	H	4-NO_2	CH_2
4-CF_3	5-Cl	H	4-OMe	CH_2
4-Cl	5-Cl	H	4-OMe	CH_2
4-Br	5-Cl	H	4-OMe	CH_2
4-OCF_2H	5-Cl	H	4-OMe	CH_2
4-CF_3	5-Cl	H	4-OPh	CH_2
4-Cl	5-Cl	H	4-OPh	CH_2
4-Br	5-Cl	H	4-OPh	CH_2
4-OCF_2H	5-Cl	H	4-OPh	CH_2
4-CF_3	5-Cl	H	4-CN	CH_2
4-Cl	5-Cl	H	4-CN	CH_2
4-Br	5-Cl	H	4-CN	CH_2
4-OCF_2H	5-Cl	H	4-CN	CH_2
4-CF_3	5-Cl	H	4-CO_2Me	CH_2
4-Cl	5-Cl	H	4-CO_2Me	CH_2
4-Br	5-Cl	H	4-CO_2Me	CH_2
4-CF_3	H	Me	H	CH_2
4-Cl	H	Me	H	CH_2
4-Br	H	Me	H	CH_2
4-OCF_2H	H	Me	H	CH_2
4-OCF_3	H	Me	H	CH_2
4-CF_3	4-F	Me	H	CH_2
4-Cl	4-F	Me	H	CH_2
4-Br	4-F	Me	H	CH_2
4-OCF_2H	4-F	Me	H	CH_2
4-OCF_3	4-F	Me	H	CH_2
4-CF_3	4-Cl	Me	H	CH_2
4-Cl	4-Cl	Me	H	CH_2
4-Br	4-Cl	Me	H	CH_2
4-OCF_2H	4-Cl	Me	H	CH_2
4-OCF_2H	4-Cl	Me	H	CH_2
4-CF_3	5-F	Me	H	CH_2
4-Cl	5-F	Me	H	CH_2
4-Br	5-F	Me	H	CH_2
4-OCF_2H	5-F	Me	H	CH_2
4-CF_3	5-Cl	Me	H	CH_2
4-Cl	5-Cl	Me	H	CH_2
4-Br	5-Cl	Me	H	CH_2
4-OCF_2H	5-Cl	Me	H	CH_2
4-CF_3	4-F	Me	4-F	CH_2
4-Cl	4-F	Me	4-F	CH_2
4-Br	4-F	Me	4-F	CH_2
4-OCF_2H	4-F	Me	4-F	CH_2
4-CF_3	4-Cl	Me	4-F	CH_2
4-Cl	4-Cl	Me	4-F	CH_2

TABLE 11-continued



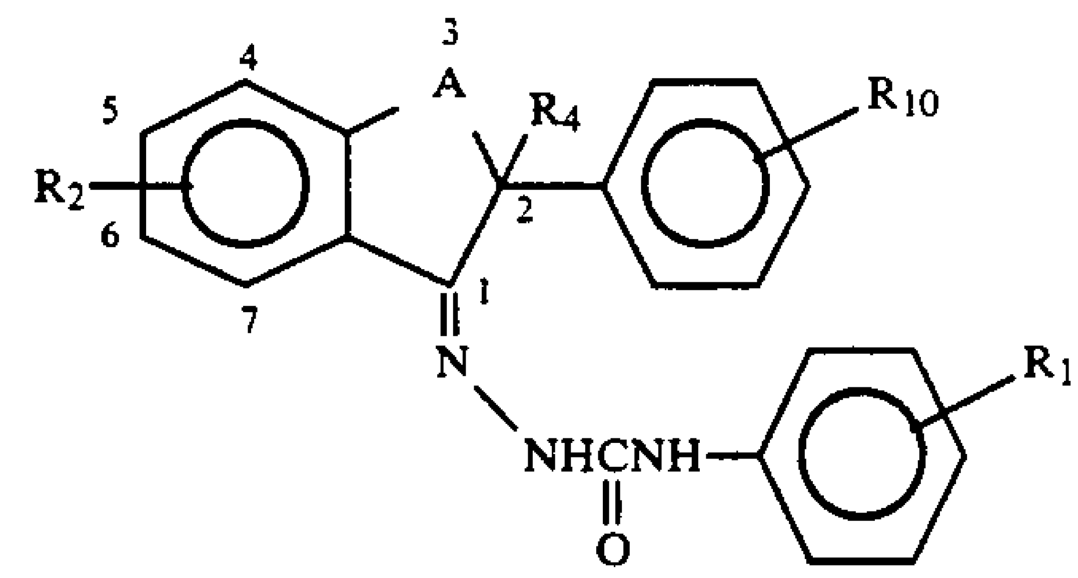
R_1	R_2	R_4	R_{10}	A
4-Br	4-Cl	Me	4-F	CH_2
4-OCF_2H	4-Cl	Me	4-F	CH_2
4-CF_3	5-F	Me	4-F	CH_2
4-Cl	5-F	Me	4-F	CH_2
4-Br	5-F	Me	4-F	CH_2
4-OCF_2H	5-F	Me	4-F	CH_2
4-CF_3	5-Cl	Me	4-F	CH_2
4-Cl	5-Cl	Me	4-F	CH_2
4-Br	5-Cl	Me	4-F	CH_2
4-OCF_2H	5-Cl	Me	4-F	CH_2
4-CF_3	4-F	Me	4-Cl	CH_2
4-Cl	4-F	Me	4-Cl	CH_2
4-Br	4-F	Me	4-Cl	CH_2
4-OCF_2H	4-F	Me	4-Cl	CH_2
4-CF_3	4-Cl	Me	4-Cl	CH_2
4-Cl	4-Cl	Me	4-Cl	CH_2
4-Br	4-Cl	Me	4-Cl	CH_2
4-OCF_2H	4-Cl	Me	4-Cl	CH_2
4-CF_3	5-F	Me	4-Cl	CH_2
4-Cl	5-F	Me	4-Cl	CH_2
4-Br	5-F	Me	4-Cl	CH_2
4-OCF_2H	5-F	Me	4-Cl	CH_2
4-CF_3	5-Cl	Me	4-Cl	CH_2
4-Cl	5-Cl	Me	4-Cl	CH_2
4-Br	5-Cl	Me	4-Cl	CH_2
4-OCF_2H	5-Cl	Me	4-Cl	CH_2
4-CF_3	5-Cl	Me	4-Cl	CH_2
4-Cl	5-Cl	Me	4-Cl	CH_2
4-Br	5-Cl	Me	4-Cl	CH_2
4-OCF_2H	5-Cl	Me	4-Cl	CH_2
4-CF_3	5-Cl	Et	4-F	CH_2
4-Cl	5-Cl	Et	4-F	CH_2
4-Br	5-Cl	Et	4-F	CH_2
4-CF_3	5-Cl	Et	4-Cl	CH_2
4-Cl	5-Cl	Et	4-Cl	CH_2
4-Br	5-Cl	Et	4-Cl	CH_2
4-CF_3	5-Cl	allyl	4-F	CH_2
4-Cl	5-Cl	allyl	4-F	CH_2
4-Br	5-Cl	allyl	4-F	CH_2
4-CF_3	5-Cl	allyl	4-Cl	CH_2
4-Cl	5-Cl	allyl	4-Cl	CH_2
4-Br	5-Cl	allyl	4-Cl	CH_2
4-CF_3	5-Cl	propargyl	4-F	CH_2
4-Cl	5-Cl	propargyl	4-F	CH_2
4-Br	5-Cl	propargyl	4-F	CH_2
4-CF_3	5-Cl	propargyl	4-Cl	CH_2
4-Cl	5-Cl	propargyl	4-Cl	CH_2
4-Br	5-Cl	propargyl	4-Cl	CH_2
4-CF_3	5-F	H	4-F	O
4-OCF_3	5-F	H	4-F	O
4-CF_3	4-F	H	4-F	O
4-OCF_3	4-F	H	4-F	O
4-CF_3	5-Cl	H	4-F	O
4-OCF_3	5-Cl	H	4-F	O
4-CF_3	5-CF_3	H	4-F	O
4-OCF_3	5-CF_3	H	4-F	O
4-CF_3	5-F	H	4-F	S
4-OCF_3	5-F	H	4-F	S
4-CF_3	4-F	H	4-F	S
4-OCF_3	4-F	H	4-F	S
4-CF_3	5-Cl	H	4-F	S
4-OCF_3	5-Cl	H	4-F	S
4-CF_3	5-CF_3	H	4-F	S
4-OCF_3	5-CF_3	H	4-F	S
4-CF_3	H	Me	H	O
4-Cl	H	Me	H	O
4-Br	H	Me	H	O
4-OCF_2H	H	Me	H	O
4-OCF_3	H	Me	H	O

TABLE 11-continued



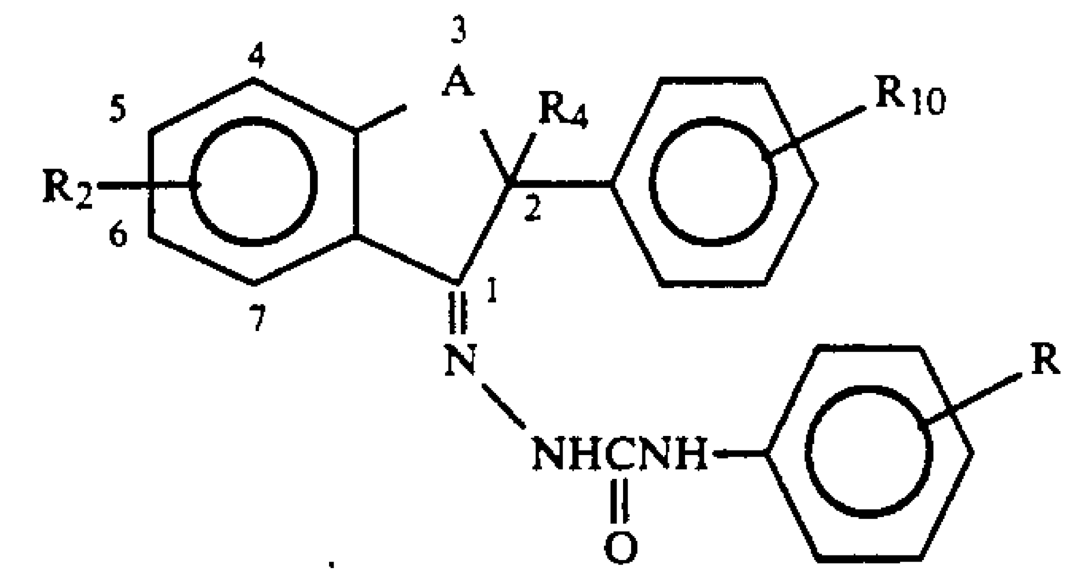
R_1	R_2	R_4	R_{10}	A
4-CF_3	4-F	Me	H	O
4-Cl	4-F	Me	H	O
4-Br	4-F	Me	H	O
4-OCF_2H	4-F	Me	H	O
4-OCF_3	4-F	Me	H	O
4-CF_3	4-Cl	Me	H	O
4-Cl	4-Cl	Me	H	O
4-Br	4-Cl	Me	H	O
4-OCF_2H	4-Cl	Me	H	O
4-OCF_3	4-Cl	Me	H	O
4-CF_3	5-F	Me	H	O
4-Cl	5-F	Me	H	O
4-Br	5-F	Me	H	O
4-OCF_2H	5-F	Me	H	O
4-CF_3	5-Cl	Me	H	O
4-Cl	5-Cl	Me	H	O
4-Br	5-Cl	Me	H	O
4-OCF_3	5-Cl	Me	H	O
4-OCF_2H	5-Cl	Me	H	O
4-CF_3	4-F	Me	4-F	O
4-Cl	4-F	Me	4-F	O
4-Br	4-F	Me	4-F	O
4-OCF_3	4-F	Me	4-F	O
4-OCF_2H	4-F	Me	4-F	O
4-CF_3	4-Cl	Me	4-F	O
4-Cl	4-Cl	Me	4-F	O
4-Br	4-Cl	Me	4-F	O
4-OCF_3	4-Cl	Me	4-F	O
4-OCF_2H	4-Cl	Me	4-F	O
4-CF_3	5-F	Me	4-F	O
4-Cl	5-F	Me	4-F	O
4-Br	5-F	Me	4-F	O
4-OCF_3	5-F	Me	4-F	O
4-OCF_2H	5-F	Me	4-F	O
4-CF_3	5-Cl	Me	4-F	O
4-Cl	5-Cl	Me	4-F	O
4-Br	5-Cl	Me	4-F	O
4-OCF_3	5-Cl	Me	4-F	O
4-OCF_2H	5-Cl	Me	4-F	O
4-CF_3	4-F	Me	4-Cl	O
4-Cl	4-F	Me	4-Cl	O
4-Br	4-F	Me	4-Cl	O
4-OCF_3	4-F	Me	4-Cl	O
4-OCF_2H	4-F	Me	4-Cl	O
4-CF_3	4-Cl	Me	4-Cl	O
4-Cl	4-Cl	Me	4-Cl	O
4-Br	4-Cl	Me	4-Cl	O
4-OCF_3	4-Cl	Me	4-Cl	O
4-OCF_2H	4-Cl	Me	4-Cl	O
4-CF_3	5-F	Me	4-Cl	O
4-Cl	5-F	Me	4-Cl	O
4-Br	5-F	Me	4-Cl	O
4-OCF_3	5-F	Me	4-Cl	O
4-OCF_2H	5-F	Me	4-Cl	O
4-CF_3	5-Cl	Me	4-Cl	O
4-Cl	5-Cl	Me	4-Cl	O
4-Br	5-Cl	Me	4-Cl	O
4-OCF_2H	5-Cl	Me	4-Cl	O
4-OCF_3	5-Cl	Me	4-Cl	O
4-CF_3	5-Cl	Me	4-Cl	O
4-Cl	5-Cl	Me	4-Cl	O
4-Br	5-Cl	Me	4-Cl	O
4-OCF_3	5-Cl	Me	4-Cl	O
4-OCF_2H	5-Cl	Me	4-Cl	O
4-CF_3	5-Cl	Et	4-F	O
4-Cl	5-Cl	Et	4-F	O
4-Br	5-Cl	Et	4-F	O
4-CF_3	5-Cl	Et	4-Cl	O
4-Cl	5-Cl	Et	4-Cl	O

TABLE 11-continued



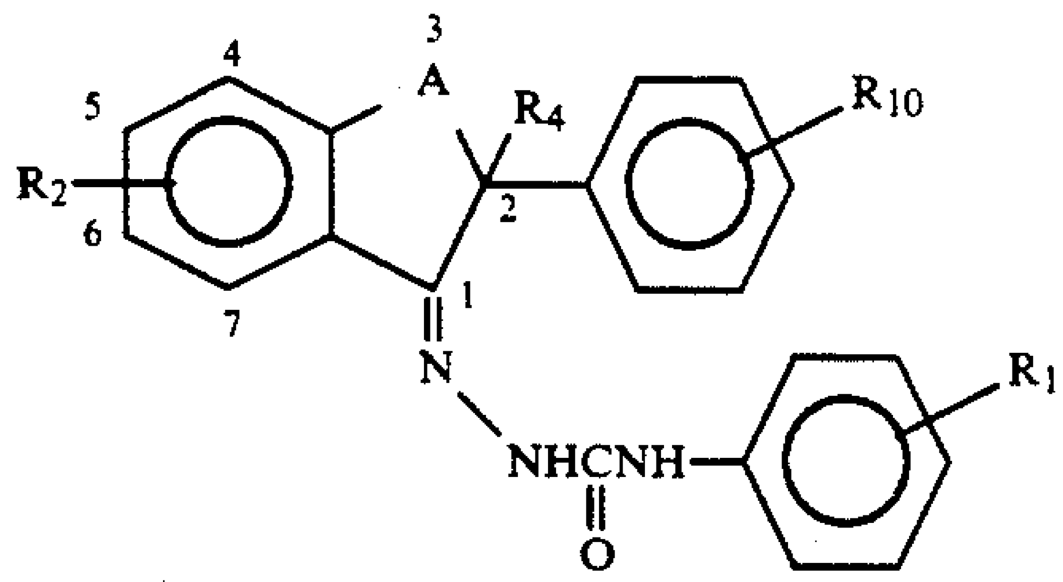
R1	R2	R4	R10	A
4-Br	5-Cl	Et	4-Cl	O
4-CF_3	5-Cl	allyl	4-F	O
4-Cl	5-Cl	allyl	4-F	O
4-Br	5-Cl	allyl	4-F	O
4-CF_3	5-Cl	allyl	4-Cl	O
4-Cl	5-Cl	allyl	4-Cl	O
4-Br	5-Cl	allyl	4-Cl	O
4-CF_3	5-Cl	propargyl	4-F	O
4-Cl	5-Cl	propargyl	4-F	O
4-Br	5-Cl	propargyl	4-F	O
4-CF_3	5-Cl	propargyl	4-Cl	O
4-Cl	5-Cl	propargyl	4-Cl	O
4-Br	5-Cl	propargyl	4-Cl	O
4-CF_3	H	Me	H	S
4-Cl	H	Me	H	S
4-Br	H	Me	H	S
4-OCF_2H	H	Me	H	S
4-OCF_3	H	Me	H	S
4-CF_3	4-F	Me	H	S
4-Cl	4-F	Me	H	S
4-Br	4-F	Me	H	S
4-OCF_2H	4-F	Me	H	S
4-OCF_3	4-F	Me	H	S
4-CF_3	4-Cl	Me	H	S
4-Cl	4-Cl	Me	H	S
4-Br	4-Cl	Me	H	S
4-OCF_2H	4-Cl	Me	H	S
4-OCF_3	4-Cl	Me	H	S
4-CF_3	5-F	Me	H	S
4-Cl	5-F	Me	H	S
4-Br	5-F	Me	H	S
4-OCF_2H	5-F	Me	H	S
4-CF_3	5-Cl	Me	H	S
4-Cl	5-Cl	Me	H	S
4-Br	5-Cl	Me	H	S
4-OCF_2H	5-Cl	Me	H	S
4-CF_3	4-F	Me	4-F	S
4-Cl	4-F	Me	4-F	S
4-Br	4-F	Me	4-F	S
4-OCF_2H	4-F	Me	4-F	S
4-CF_3	4-Cl	Me	4-F	S
4-Cl	4-Cl	Me	4-F	S
4-Br	4-Cl	Me	4-F	S
4-OCF_2H	4-Cl	Me	4-F	S
4-CF_3	5-F	Me	4-F	S
4-Cl	5-F	Me	4-F	S
4-Br	5-F	Me	4-F	S
4-OCF_2H	5-F	Me	4-F	S
4-CF_3	5-Cl	Me	4-F	S
4-Cl	5-Cl	Me	4-F	S
4-Br	5-Cl	Me	4-F	S
4-OCF_2H	5-Cl	Me	4-F	S
4-CF_3	4-F	Me	4-Cl	S
4-Cl	4-F	Me	4-Cl	S
4-Br	4-F	Me	4-Cl	S
4-OCF_2H	4-F	Me	4-Cl	S
4-CF_3	4-Cl	Me	4-Cl	S
4-Cl	4-Cl	Me	4-Cl	S
4-Br	4-Cl	Me	4-Cl	S
4-OCF_2H	4-Cl	Me	4-Cl	S
4-CF_3	5-F	Me	4-Cl	S
4-Cl	5-F	Me	4-Cl	S
4-Br	5-F	Me	4-Cl	S
4-OCF_2H	5-F	Me	4-Cl	S
4-CF_3	5-Cl	Me	4-Cl	S
4-Cl	5-Cl	Me	4-Cl	S
4-Br	5-Cl	Me	4-Cl	S
4-OCF_2H	5-Cl	Me	4-Cl	S
4-CF_3	5-Cl	Me	4-Cl	S

TABLE 11-continued



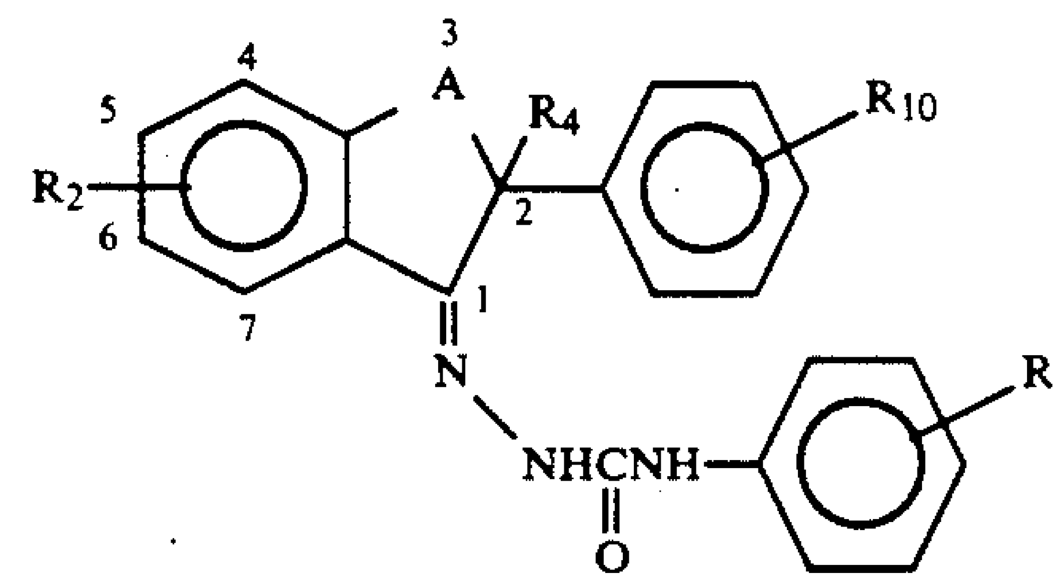
R1	R2	R4	R10	A
4-Cl	5-Cl	Me	4-Cl	S
4-Br	5-Cl	Me	4-Cl	S
4-OCF_2H	5-Cl	Me	4-Cl	S
4-CF_3	5-Cl	Et	4-F	S
4-Cl	5-Cl	Et	4-F	S
4-Br	5-Cl	Et	4-F	S
4-CF_3	5-Cl	Et	4-Cl	S
4-Cl	5-Cl	Et	4-Cl	S
4-Br	5-Cl	Et	4-Cl	S
4-CF_3	5-Cl	allyl	4-F	S
4-Cl	5-Cl	allyl	4-F	S
4-Br	5-Cl	allyl	4-F	S
4-CF_3	5-Cl	allyl	4-Cl	S
4-Cl	5-Cl	allyl	4-Cl	S
4-Br	5-Cl	allyl	4-Cl	S
4-CF_3	5-Cl	propargyl	4-F	S
4-Cl	5-Cl	propargyl	4-F	S
4-Br	5-Cl	propargyl	4-Cl	S
4-CF_3	5-Cl	propargyl	4-Cl	S
4-Cl	5-Cl	propargyl	4-Cl	S
4-Br	5-Cl	propargyl	4-Cl	S
4-Cl	H	H	H	CH_2CH_2
4-OCF_3	H	H	H	CH_2CH_2
4-F	4-F	H	H	CH_2CH_2
4-Cl	4-F	H	H	CH_2CH_2
4-Br	4-F	H	H	CH_2CH_2
4-CF_3	4-F	H	H	CH_2CH_2
4-OCF_3	4-F	H	H	CH_2CH_2
4-OCF_2H	4-F	H	H	CH_2CH_2
3,4-di-Cl	4-F	H	H	CH_2CH_2
4-CN	4-Cl	H	H	CH_2CH_2
4-CO_2Me	4-Cl	H	H	CH_2CH_2
4-Cl	4-Cl	H	H	CH_2CH_2
4-Br	4-Cl	H	H	CH_2CH_2
4-CF_3	4-Cl	H	H	CH_2CH_2
4-OCF_2H	4-Cl	H	H	CH_2CH_2
4-OCF_3	4-Cl	H	H	CH_2CH_2
4-OCF_2H	5-F	H	H	CH_2CH_2
4-OCF_3	5-F	H	H	CH_2CH_2
4-NO_2	5-F	H	H	CH_2CH_2
4-SCF_2H	5-F	H	H	CH_2CH_2
4-CN	5-F	H	H	CH_2CH_2
3,4-CF_2CF_2O	5-F	H	H	CH_2CH_2
3,4-$CH_2C(Me)_2O$	5-F	H	H	CH_2CH_2
4-F	5-Cl	H	H	CH_2CH_2
4-OCF_2H	5-Cl	H	H	CH_2CH_2
4-OCF_3	5-Cl	H	H	CH_2CH_2
4-NO_2	5-Cl	H	H	CH_2CH_2
4-SCF_2H	5-Cl	H	H	CH_2CH_2
4-CN	5-Cl	H	H	CH_2CH_2
3,4-CF_2CF_2O	5-Cl	H	H	CH_2CH_2
3,4-$CH_2C(Me)_2O$	5-Cl	H	H	CH_2CH_2
4-Cl	5-Br	H	H	CH_2CH_2
4-Br	5-Br	H	H	CH_2CH_2
4-CF_3	5-Br	H	H	CH_2CH_2
4-OCF_2H	5-Br	H	H	CH_2CH_2
4-OCF_3	5-Br	H	H	CH_2CH_2
4-Cl	5-CN	H	H	CH_2CH_2
4-Br	5-CN	H	H	CH_2CH_2
4-CF_3	5-CN	H	H	CH_2CH_2
4-OCF_2H	5-CN	H	H	CH_2CH_2
4-OCF_3	5-CN	H	H	CH_2CH_2
4-Cl	5-OMe	H	H	CH_2CH_2
4-Br	5-OMe	H	H	CH_2CH_2
4-CF_3	5-OMe	H	H	CH_2CH_2
4-OCF_2H	5-OCF_2H	H	H	CH_2CH_2
4-OCF_3	5-OCF_2H	H	H	CH_2CH_2
4-CF_3	5-OCF_2H	H	H	CH_2CH_2
4-Cl	5-OCF_2H	H	H	CH_2CH_2

TABLE 11-continued



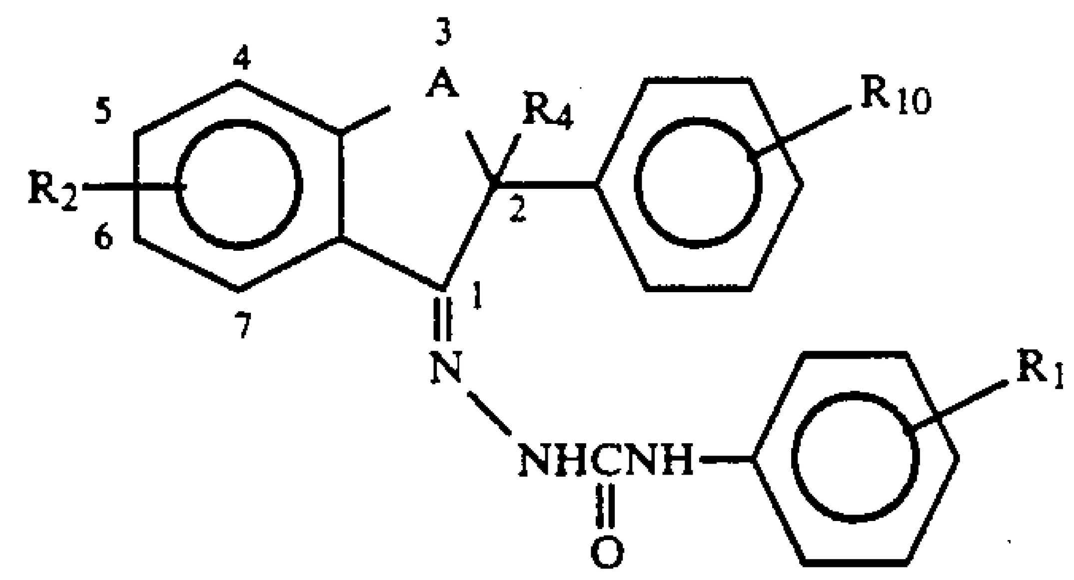
R1	R2	R4	R10	A
4-Br	5-OCF_2H	H	H	CH_2CH_2
4-OCF_2H	5-OCF_3	H	H	CH_2CH_2
4-OCF_3	5-OCF_3	H	H	CH_2CH_2
4-CF_3	5-OCF_3	H	H	CH_2CH_2
4-Cl	5-OCF_3	H	H	CH_2CH_2
4-Br	5-OCF_3	H	H	CH_2CH_2
4-OCF_2H	5-OPh	H	H	CH_2CH_2
4-OCF_3	5-OPh	H	H	CH_2CH_2
4-CF_3	5-OPh	H	H	CH_2CH_2
4-Cl	5-OPh	H	H	CH_2CH_2
4-Br	5-OPh	H	H	CH_2CH_2
4-CF_3	5-SMe	H	H	CH_2CH_2
4-Cl	5-SMe	H	H	CH_2CH_2
4-Br	5-SMe	H	H	CH_2CH_2
4-CF_3	6-F	H	H	CH_2CH_2
4-Cl	6-F	H	H	CH_2CH_2
4-Br	6-F	H	H	CH_2CH_2
4-CF_3	6-Cl	H	H	CH_2CH_2
4-Cl	6-Cl	H	H	CH_2CH_2
4-Br	6-Cl	H	H	CH_2CH_2
4-Cl	5-F	H	4-F	CH_2CH_2
4-Br	5-F	H	4-F	CH_2CH_2
4-CF_3	5-F	H	4-F	CH_2CH_2
4-OCF_2H	5-F	H	4-F	CH_2CH_2
4-OCF_3	5-F	H	4-F	CH_2CH_2
3,4-di-Cl	5-F	H	4-F	CH_2CH_2
3,4-CF_2CF_2O	5-F	H	4-F	CH_2CH_2
3,4-$CH_2C(Me)_2O$	5-F	H	4-F	CH_2CH_2
4-Cl	5-F	H	4-Cl	CH_2CH_2
4-Br	5-F	H	4-Cl	CH_2CH_2
4-CF_3	5-F	H	4-Cl	CH_2CH_2
4-OCF_2H	5-F	H	4-Cl	CH_2CH_2
4-OCF_3	5-F	H	4-Cl	CH_2CH_2
4-Cl	5-F	H	4-NO_2	CH_2CH_2
4-Br	5-F	H	4-NO_2	CH_2CH_2
4-CF_3	5-F	H	4-NO_2	CH_2CH_2
4-OCF_2H	5-F	H	4-NO_2	CH_2CH_2
4-OCF_3	5-F	H	4-NO_2	CH_2CH_2
4-Cl	5-F	H	4-CN	CH_2CH_2
4-Br	5-F	H	4-CN	CH_2CH_2
4-CF_3	5-F	H	4-CN	CH_2CH_2
4-OCF_2H	5-F	H	4-CN	CH_2CH_2
4-OCF_3	5-F	H	4-CN	CH_2CH_2
4-Cl	5-F	H	4-CF_3	CH_2CH_2
4-Br	5-F	H	4-CF_3	CH_2CH_2
4-CF_3	5-F	H	4-CF_3	CH_2CH_2
4-OCF_2H	5-F	H	4-CF_3	CH_2CH_2
4-CF_3	5-F	H	4-OCF_2H	CH_2CH_2
4-Cl	5-F	H	4-OCF_2H	CH_2CH_2
4-Br	5-F	H	4-OCF_2H	CH_2CH_2
4-OCF_2H	5-F	H	4-OCF_2H	CH_2CH_2
4-OCF_3	5-F	H	4-OCF_2H	CH_2CH_2
4-CF_3	5-Cl	H	4-F	CH_2CH_2
4-Cl	5-Cl	H	4-F	CH_2CH_2
4-Br	5-Cl	H	4-F	CH_2CH_2
4-F	5-Cl	H	4-F	CH_2CH_2
4-OCF_3	5-Cl	H	4-F	CH_2CH_2
4-OCF_2H	5-Cl	H	4-F	CH_2CH_2
4-NO_2	5-Cl	H	4-F	CH_2CH_2
3,4-di-Cl	5-Cl	H	4-F	CH_2CH_2
3,4-$CH_2C(Me)_2O$	5-Cl	H	4-F	CH_2CH_2
3,4-CF_2CF_2O	5-Cl	H	4-F	CH_2CH_2
4-CF_3	5-Cl	H	4-Cl	CH_2CH_2
4-Cl	5-Cl	H	4-Cl	CH_2CH_2
4-Br	5-Cl	H	4-Cl	CH_2CH_2
4-OCF_3	5-Cl	H	4-Cl	CH_2CH_2
4-OCF_2H	5-Cl	H	4-Cl	CH_2CH_2
3,4-CF_2CF_2O	5-Cl	H	4-Cl	CH_2CH_2
3,4-$CH_2C(Me)_2O$	5-Cl	H	4-Cl	CH_2CH_2

TABLE 11-continued



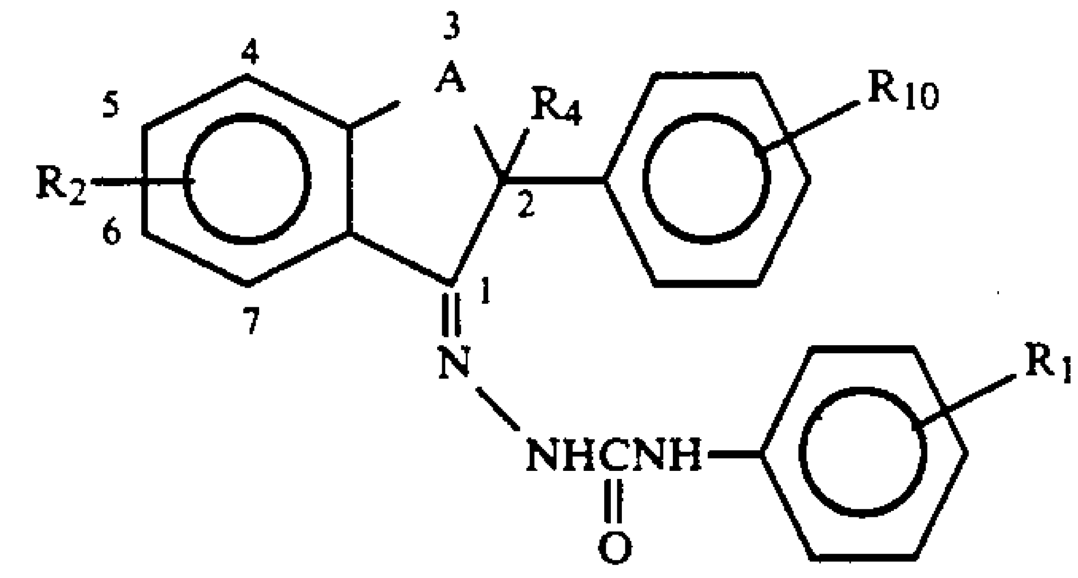
R1	R2	R4	R10	A
4-CN	5-Cl	H	4-Cl	CH_2CH_2
4-F	5-Cl	H	4-Cl	CH_2CH_2
4-NO_2	5-Cl	H	4-Cl	CH_2CH_2
H	5-Cl	H	4-Cl	CH_2CH_2
4-CF_3	5-CF_3	H	4-F	CH_2CH_2
4-OCF_3	5-CF_3	H	4-F	CH_2CH_2
4-Cl	5-CF_3	H	4-F	CH_2CH_2
4-Br	5-CF_3	H	4-F	CH_2CH_2
4-CF_3	5-OCF_2H	H	4-F	CH_2CH_2
4-Cl	5-OCF_2H	H	4-F	CH_2CH_2
4-Br	5-OCF_2H	H	4-F	CH_2CH_2
4-CF_3	5-OCF_2H	H	4-Cl	CH_2CH_2
4-Cl	5-OCF_2H	H	4-Cl	CH_2CH_2
4-Br	5-OCF_2H	H	4-Cl	CH_2CH_2
4-CF_3	4-F	H	4-F	CH_2CH_2
4-Cl	4-F	H	4-F	CH_2CH_2
4-Br	4-F	H	4-F	CH_2CH_2
4-CF_3	4-F	H	4-Cl	CH_2CH_2
4-Cl	4-F	H	4-Cl	CH_2CH_2
4-Br	4-F	H	4-Cl	CH_2CH_2
4-CF_3	4-Cl	H	4-Cl	CH_2CH_2
4-Cl	4-Cl	H	4-Cl	CH_2CH_2
4-Br	4-Cl	H	4-Cl	CH_2CH_2
4-CF_3	4-Cl	H	4-F	CH_2CH_2
4-Cl	4-Cl	H	4-F	CH_2CH_2
4-Br	4-Cl	H	4-F	CH_2CH_2
4-CF_3	5-Cl	H	4-CF_3	CH_2CH_2
4-Cl	5-Cl	H	4-CF_3	CH_2CH_2
4-Br	5-Cl	H	4-CF_3	CH_2CH_2
4-OCF_2H	5-Cl	H	4-CF_3	CH_2CH_2
4-CF_3	5-Cl	H	4-Me	CH_2CH_2
4-Cl	5-Cl	H	4-Me	CH_2CH_2
4-Br	5-Cl	H	4-Me	CH_2CH_2
4-OCF_2H	5-Cl	H	4-Me	CH_2CH_2
4-CF_3	5-Cl	H	4-SMe	CH_2CH_2
4-Cl	5-Cl	H	4-SMe	CH_2CH_2
4-Br	5-Cl	H	4-SMe	CH_2CH_2
4-OCF_3	5-Cl	H	4-SMe	CH_2CH_2
4-CF_3	5-Cl	H	4-NO_2	CH_2CH_2
4-Cl	5-Cl	H	4-NO_2	CH_2CH_2
4-Br	5-Cl	H	4-NO_2	CH_2CH_2
4-OCF_2H	5-Cl	H	4-NO_2	CH_2CH_2
4-CF_3	5-Cl	H	4-OPh	CH_2CH_2
4-Cl	5-Cl	H	4-OPh	CH_2CH_2
4-Br	5-Cl	H	4-OPh	CH_2CH_2
4-OCF_2H	5-Cl	H	4-OPh	CH_2CH_2
4-CF_3	H	Me	H	CH_2CH_2
4-Cl	H	Me	H	CH_2CH_2
4-Br	H	Me	H	CH_2CH_2
4-OCF_2H	H	Me	H	CH_2CH_2
4-OCF_3	H	Me	H	CH_2CH_2
4-CF_3	4-F	Me	H	CH_2CH_2
4-Cl	4-F	Me	H	CH_2CH_2
4-Br	4-F	Me	H	CH_2CH_2
4-OCF_2H	4-F	Me	H	CH_2CH_2
4-OCF_3	4-F	Me	H	CH_2CH_2
4-CF_3	4-Cl	Me	H	CH_2CH_2
4-Cl	4-Cl	Me	H	CH_2CH_2
4-Br	4-Cl	Me	H	CH_2CH_2
4-OCF_2H	4-Cl	Me	H	CH_2CH_2
4-OCF_3	4-Cl	Me	H	CH_2CH_2
4-CF_3	5-F	Me	H	CH_2CH_2
4-Cl	5-F	Me	H	CH_2CH_2
4-Br	5-F	Me	H	CH_2CH_2
4-OCF_2H	5-F	Me	H	CH_2CH_2
4-CF_3	5-Cl	Me	H	CH_2CH_2
4-Cl	5-Cl	Me	H	CH_2CH_2
4-Br	5-Cl	Me	H	CH_2CH_2
4-OCF_2H	5-Cl	Me	H	CH_2CH_2

TABLE 11-continued



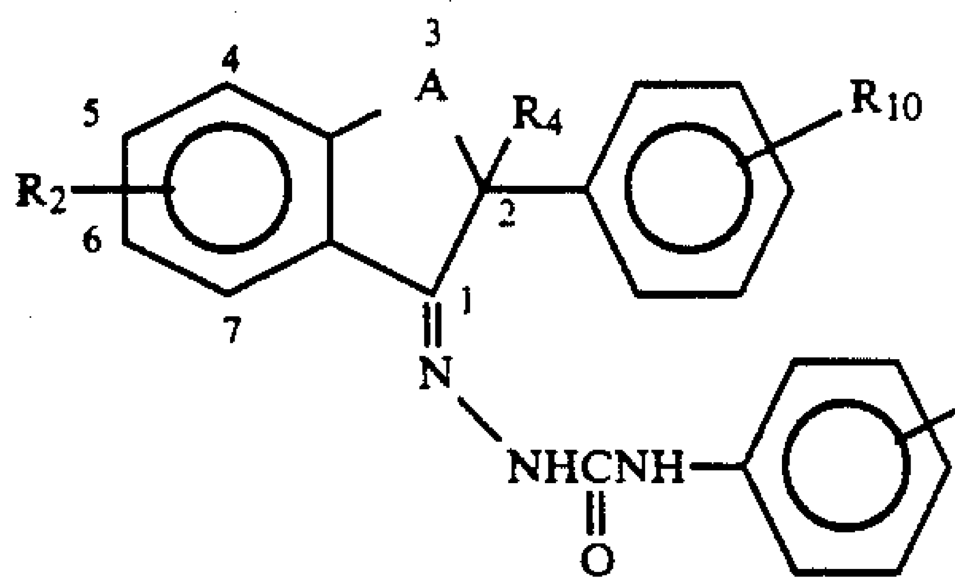
R_1	R_2	R_4	R_{10}	A
4-CF_3	4-F	Me	4-F	CH_2CH_2
4-Cl	4-F	Me	4-F	CH_2CH_2
4-Br	4-F	Me	4-F	CH_2CH_2
4-OCF_2H	4-F	Me	4-F	CH_2CH_2
4-CF_3	4-Cl	Me	4-F	CH_2CH_2
4-Cl	4-Cl	Me	4-F	CH_2CH_2
4-Br	4-Cl	Me	4-F	CH_2CH_2
4-OCF_2H	4-Cl	Me	4-F	CH_2CH_2
4-CF_3	5-F	Me	4-F	CH_2CH_2
4-Cl	5-F	Me	4-F	CH_2CH_2
4-Br	5-F	Me	4-F	CH_2CH_2
4-OCF_2H	5-F	Me	4-F	CH_2CH_2
4-CF_3	5-Cl	Me	4-F	CH_2CH_2
4-Cl	5-Cl	Me	4-F	CH_2CH_2
4-Br	5-Cl	Me	4-F	CH_2CH_2
4-OCF_2H	5-Cl	Me	4-F	CH_2CH_2
4-CF_3	4-F	Me	4-Cl	CH_2CH_2
4-Cl	4-F	Me	4-Cl	CH_2CH_2
4-Br	4-F	Me	4-Cl	CH_2CH_2
4-OCF_2H	4-F	Me	4-Cl	CH_2CH_2
4-CF_3	4-Cl	Me	4-Cl	CH_2CH_2
4-Cl	4-Cl	Me	4-Cl	CH_2CH_2
4-Br	4-Cl	Me	4-Cl	CH_2CH_2
4-OCF_2H	4-Cl	Me	4-Cl	CH_2CH_2
4-CF_3	5-F	Me	4-Cl	CH_2CH_2
4-Cl	5-F	Me	4-Cl	CH_2CH_2
4-Br	5-F	Me	4-Cl	CH_2CH_2
4-OCF_2H	5-F	Me	4-Cl	CH_2CH_2
4-CF_3	5-Cl	Me	4-Cl	CH_2CH_2
4-Cl	5-Cl	Me	4-Cl	CH_2CH_2
4-Br	5-Cl	Me	4-Cl	CH_2CH_2
4-OCF_2H	5-Cl	Me	4-Cl	CH_2CH_2
4-CF_3	5-Cl	Me	4-Cl	CH_2CH_2
4-Cl	5-Cl	Me	4-Cl	CH_2CH_2
4-Br	5-Cl	Me	4-Cl	CH_2CH_2
4-OCF_2H	5-Cl	Me	4-Cl	CH_2CH_2
4-CF_3	5-Cl	Et	4-F	CH_2CH_2
4-Cl	5-Cl	Et	4-F	CH_2CH_2
4-Br	5-Cl	Et	4-F	CH_2CH_2
4-CF_3	5-Cl	Et	4-Cl	CH_2CH_2
4-Cl	5-Cl	Et	4-Cl	CH_2CH_2
4-Br	5-Cl	Et	4-Cl	CH_2CH_2
4-CF_3	5-Cl	allyl	4-F	CH_2CH_2
4-Cl	5-Cl	allyl	4-F	CH_2CH_2
4-Br	5-Cl	allyl	4-F	CH_2CH_2
4-CF_3	5-Cl	allyl	4-Cl	CH_2CH_2
4-Cl	5-Cl	allyl	4-Cl	CH_2CH_2
4-Br	5-Cl	allyl	4-Cl	CH_2CH_2
4-CF_3	5-Cl	propargyl	4-F	CH_2CH_2
4-Cl	5-Cl	propargyl	4-F	CH_2CH_2
4-Br	5-Cl	propargyl	4-F	CH_2CH_2
4-CF_3	5-Cl	propargyl	4-Cl	CH_2CH_2
4-Cl	5-Cl	propargyl	4-Cl	CH_2CH_2
4-Br	5-Cl	propargyl	4-Cl	CH_2CH_2
4-CF_3	5-F	H	4-F	NMe
4-OCF_3	5-F	H	4-F	NMe
4-CF_3	5-Cl	H	4-F	NMe
4-OCF_3	5-Cl	H	4-F	NMe
4-CF_3	4-F	Me	4-Cl	NMe
4-Cl	4-F	Me	4-Cl	NMe
4-Br	4-F	Me	4-Cl	NMe
4-OCF_2H	4-F	Me	4-Cl	NMe
4-CF_3	4-Cl	Me	4-Cl	NMe
4-Cl	4-Cl	Me	4-Cl	NMe
4-Br	4-Cl	Me	4-Cl	NMe
4-OCF_2H	4-Cl	Me	4-Cl	NMe
4-CF_3	5-F	Me	4-Cl	NMe
4-Cl	5-F	Me	4-Cl	NMe
4-Br	5-F	Me	4-Cl	NMe

TABLE 11-continued



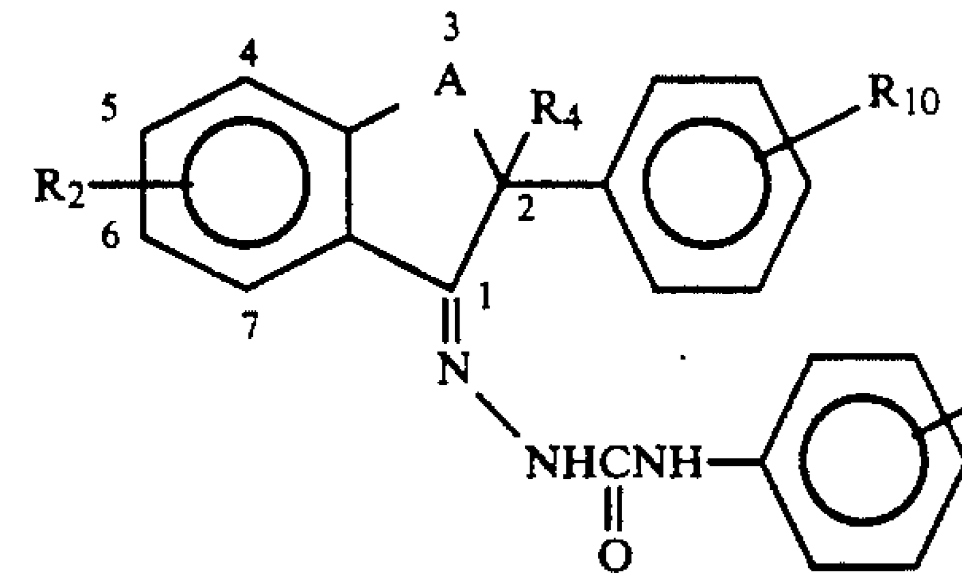
R_1	R_2	R_4	R_{10}	A
4-OCF_2H	5-F	Me	4-Cl	NMe
4-CF_3	5-Cl	Me	4-Cl	NMe
4-Cl	5-Cl	Me	4-Cl	NMe
4-Br	5-Cl	Me	4-Cl	NMe
4-OCF_2H	5-Cl	Me	4-Cl	NMe
4-CF_3	5-Cl	Me	4-Cl	NMe
4-Cl	5-Cl	Me	4-Cl	NMe
4-Br	5-Cl	Me	4-Cl	NMe
4-OCF_2H	5-Cl	Me	4-Cl	NMe
4-F	5-F	H	H	CHMe
4-Cl	5-F	H	H	CHMe
4-Br	5-F	H	H	CHMe
4-CF_3	5-F	H	H	CHMe
4-OCF_2H	5-F	H	H	CHMe
4-OCF_3	5-F	H	H	CHMe
4-NO_2	5-F	H	H	CHMe
4-SCF_2H	5-F	H	H	CHMe
4-CN	5-F	H	H	CHMe
3,4-CF_2CF_2O	5-F	H	H	CHMe
3,4-$CH_2C(Me)_2O$	5-F	H	H	CHMe
4-F	5-Cl	H	H	CHMe
4-Cl	5-Cl	H	H	CHMe
4-Br	5-Cl	H	H	CHMe
4-CF_3	5-Cl	H	H	CHMe
4-OCF_2H	5-Cl	H	H	CHMe
4-OCF_3	5-Cl	H	H	CHMe
4-NO_2	5-Cl	H	H	CHMe
4-CF_3	4-Cl	H	4-Cl	CHMe
4-Cl	4-Cl	H	4-Cl	CHMe
4-Br	4-Cl	H	4-Cl	CHMe
4-CF_3	4-Cl	H	4-F	CHMe
4-Cl	4-Cl	H	4-F	CHMe
4-Br	4-Cl	H	4-F	CHMe
4-CF_3	5-Cl	H	4-CF_3	CHMe
4-Cl	5-Cl	H	4-CF_3	CHMe
4-Br	5-Cl	H	4-CF_3	CHMe
4-OCF_2H	5-Cl	H	4-CF_3	CHMe
4-CF_3	5-Cl	H	4-Me	CHMe
4-Cl	5-Cl	H	4-Me	CHMe
4-Br	5-Cl	H	4-Me	CHMe
4-OCF_2H	5-Cl	H	4-Me	CHMe
4-CF_3	5-Cl	H	4-SMe	CHMe
4-Cl	5-Cl	H	4-SMe	CHMe
4-Br	5-Cl	H	4-SMe	CHMe
4-OCF_2H	5-Cl	H	4-SMe	CHMe
4-CF_3	4-F	Me	4-Cl	CHMe
4-Cl	4-F	Me	4-Cl	CHMe
4-Br	4-F	Me	4-Cl	CHMe
4-OCF_2H	4-F	Me	4-Cl	CHMe
4-CF_3	4-Cl	Me	4-Cl	CHMe
4-Cl	4-Cl	Me	4-Cl	CHMe
4-Br	4-Cl	Me	4-Cl	CHMe
4-OCF_2H	4-Cl	Me	4-Cl	CHMe
4-CF_3	5-F	Me	4-Cl	CHMe
4-Cl	5-F	Me	4-Cl	CHMe
4-Br	5-F	Me	4-Cl	CHMe
4-OCF_2H	5-F	Me	4-Cl	CHMe
4-CF_3	5-Cl	Me	4-Cl	CHMe
4-Cl	5-Cl	Me	4-Cl	CHMe
4-Br	5-Cl	Me	4-Cl	CHMe
4-OCF_2H	5-Cl	Me	4-Cl	CHMe
4-CF_3	5-Cl	Me	4-Cl	CHMe
4-Cl	5-Cl	Me	4-Cl	CHMe
4-Br	5-Cl	Me	4-Cl	CHMe
4-OCF_2H	5-Cl	Me	4-Cl	CHMe
4-CF_3	4-F	Me	4-Cl	SO_2
4-Cl	4-F	Me	4-Cl	SO_2
4-Br	4-F	Me	4-Cl	SO_2
4-OCF_2H	4-F	Me	4-Cl	SO_2

TABLE 11-continued



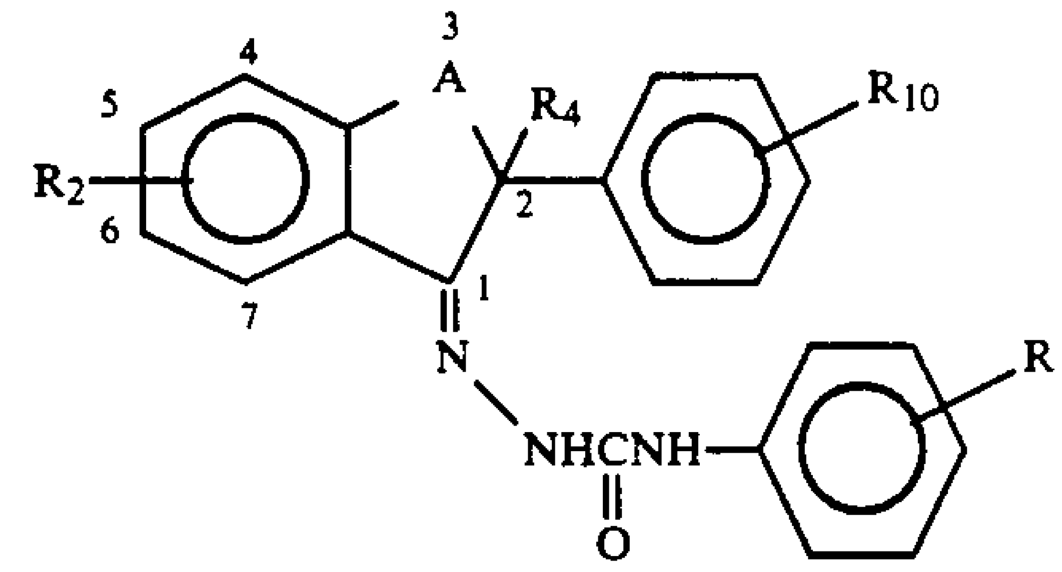
R$_1$	R$_2$	R$_4$	R$_{10}$	A
4-CF$_3$	4-Cl	Me	4-Cl	SO$_2$
4-Cl	4-Cl	Me	4-Cl	SO$_2$
4-Br	4-Cl	Me	4-Cl	SO$_2$
4-OCF$_2$H	4-Cl	Me	4-Cl	SO$_2$
4-CF$_3$	5-F	Me	4-Cl	SO$_2$
4-Cl	5-F	Me	4-Cl	SO$_2$
4-Br	5-F	Me	4-Cl	SO$_2$
4-OCF$_2$H	5-F	Me	4-Cl	SO$_2$
4-CF$_3$	5-Cl	Me	4-Cl	SO$_2$
4-Cl	5-Cl	Me	4-Cl	SO$_2$
4-Br	5-Cl	Me	4-Cl	SO$_2$
4-OCF$_2$H	5-Cl	Me	4-Cl	SO$_2$
4-CF$_3$	5-Cl	Me	4-Cl	SO$_2$
4-Cl	5-Cl	Me	4-Cl	SO$_2$
4-Br	5-Cl	Me	4-Cl	SO$_2$
4-OCF$_2$H	5-Cl	Me	4-Cl	SO$_2$
4-F	5-F	H	H	C(Me)$_1$
4-Cl	5-F	H	H	C(Me)$_2$
4-Br	5-F	H	H	C(Me)$_2$
4-CF$_3$	5-F	H	H	C(Me)$_2$
4-OCF$_2$H	5-F	H	H	C(Me)$_2$
4-OCF$_3$	5-F	H	H	C(Me)$_2$
4-NO$_2$	5-F	H	H	C(Me)$_2$
4-SCF$_2$H	5-F	H	H	C(Me)$_2$
4-CN	5-F	H	H	C(Me)$_2$
3,4-CF$_2$CF$_2$O	5-F	H	H	C(Me)$_2$
3,4-CH$_2$C(Me)$_2$O	5-F	H	H	C(Me)$_2$
4-F	5-Cl	H	H	C(Me)$_2$
4-Cl	5-Cl	H	H	C(Me)$_2$
4-Br	5-Cl	H	H	C(Me)$_2$
4-CF$_3$	5-Cl	H	H	C(Me)$_2$
4-OCF$_2$H	5-Cl	H	H	C(Me)$_2$
4-OCF$_3$	5-Cl	H	H	C(Me)$_2$
4-NO$_2$	5-Cl	H	H	C(Me)$_2$
4-CF$_3$	4-Cl	H	4-Cl	C(Me)$_2$
4-Cl	4-Cl	H	4-Cl	C(Me)$_2$
4-Br	4-Cl	H	4-Cl	C(Me)$_2$
4-CF$_3$	4-Cl	H	4-F	C(Me)$_2$
4-Cl	4-Cl	H	4-F	C(Me)$_2$
4-Br	4-Cl	H	4-F	C(Me)$_2$
4-OCF$_3$	4-Cl	H	4-F	C(Me)$_2$
4-CF$_3$	5-Cl	H	4-CF$_3$	C(Me)$_2$
4-Cl	5-Cl	H	4-CF$_3$	C(Me)$_2$
4-Br	5-Cl	H	4-CF$_3$	C(Me)$_2$
4-OCF$_2$H	5-Cl	H	4-CF$_3$	C(Me)$_2$
4-OCF$_3$	5-Cl	H	4-CF$_3$	C(Me)$_2$
4-CF$_3$	5-Cl	H	4-Me	C(Me)$_2$
4-Cl	5-Cl	H	4-Me	C(Me)$_2$
4-Br	5-Cl	H	4-Me	C(Me)$_2$
4-OCF$_2$H	5-Cl	H	4-Me	C(Me)$_2$
4-CF$_3$	5-F	Me	4-F	C(Me)$_2$
4-Cl	5-F	Me	4-F	C(Me)$_2$
4-Br	5-F	Me	4-F	C(Me)$_2$
4-OCF$_3$	5-F	Me	4-F	C(Me)$_2$
4-OCF$_2$H	5-F	Me	4-F	C(Me)$_2$
4-CF$_3$	5-Cl	H	4-SMe	C(Me)$_2$
4-Cl	5-Cl	H	4-SMe	C(Me)$_2$
4-Br	5-Cl	H	4-SMe	C(Me)$_2$
4-OCF$_2$H	5-Cl	H	4-SMe	C(Me)$_2$
4-CF$_3$	4-F	Me	4-Cl	C(Me)$_2$
4-Cl	4-F	Me	4-Cl	C(Me)$_2$
4-Br	4-F	Me	4-Cl	C(Me)$_2$
4-OCF$_2$H	4-F	Me	4-Cl	C(Me)$_2$
4-CF$_3$	4-Cl	Me	4-Cl	C(Me)$_2$
4-Cl	4-Cl	Me	4-Cl	C(Me)$_2$
4-Br	4-Cl	Me	4-Cl	C(Me)$_2$
4-OCF$_2$H	4-Cl	Me	4-Cl	C(Me)$_2$
4-CF$_3$	5-F	Me	4-Cl	C(Me)$_2$
4-Cl	5-F	Me	4-Cl	C(Me)$_2$

TABLE 11-continued



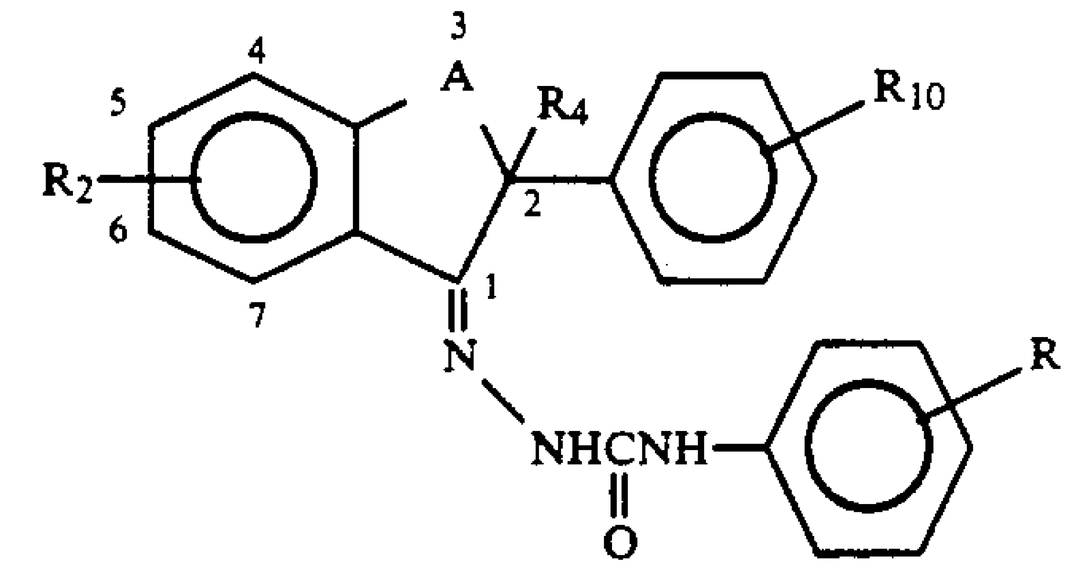
R$_1$	R$_2$	R$_4$	R$_{10}$	A
4-Br	5-F	Me	4-Cl	C(Me)$_2$
4-OCF$_2$H	5-F	Me	4-Cl	C(Me)$_2$
4-CF$_3$	5-Cl	Me	4-Cl	C(Me)$_2$
4-Cl	5-Cl	Me	4-Cl	C(Me)$_2$
4-Br	5-Cl	Me	4-Cl	C(Me)$_2$
4-OCF$_2$H	5-Cl	Me	4-Cl	C(Me)$_2$
4-CF$_3$	5-Cl	Me	4-Cl	C(Me)$_2$
4-Cl	5-Cl	Me	4-Cl	C(Me)$_2$
4-Br	5-Cl	Me	4-Cl	C(Me)$_2$
4-OCF$_2$H	5-Cl	Me	4-Cl	C(Me)$_2$
4-CF$_3$	5-F	Me	4-F	C(Me)$_2$
4-OCF$_3$	5-F	Me	4-F	C(Me)$_2$
4-CF$_3$	4-Cl	Me	4-Cl	S(O)
4-Cl	4-Cl	Me	4-Cl	S(O)
4-Br	4-Cl	Me	4-Cl	S(O)
4-OCF$_2$H	4-Cl	Me	4-Cl	S(O)
4-CF$_3$	5-F	Me	4-Cl	S(O)
4-Cl	5-F	Me	4-Cl	S(O)
4-Br	5-F	Me	4-Cl	S(O)
4-OCF$_2$H	5-F	Me	4-Cl	S(O)
4-CF$_3$	5-Cl	Me	4-Cl	S(O)
4-Cl	5-Cl	Me	4-Cl	S(O)
4-Br	5-Cl	Me	4-Cl	S(O)
4-OCF$_2$H	5-Cl	Me	4-Cl	S(O)
4-CF$_3$	5-Cl	Me	4-Cl	S(O)
4-Cl	5-Cl	Me	4-Cl	S(O)
4-Br	5-Cl	Me	4-Cl	S(O)
4-OCF$_2$H	5-Cl	Me	4-Cl	S(O)
4-F	5-F	H	H	OCH$_2$
4-Cl	5-F	H	H	OCH$_2$
4-Br	5-F	H	H	OCH$_2$
4-CF$_3$	5-F	H	H	OCH$_2$
4-OCF$_2$H	5-F	H	H	OCH$_2$
4-OCF$_3$	5-F	H	H	OCH$_2$
4-CF$_3$	4-Cl	H	4-Cl	OCH$_2$
4-Cl	4-Cl	H	4-Cl	OCH$_2$
4-Br	4-Cl	H	4-Cl	OCH$_2$
4-CF$_3$	4-Cl	H	4-F	OCH$_2$
4-Cl	4-Cl	H	4-F	OCH$_2$
4-Br	4-Cl	H	4-F	OCH$_2$
4-CF$_3$	5-Cl	H	4-CF$_3$	OCH$_2$
4-Cl	5-Cl	H	4-CF$_3$	OCH$_2$
4-Br	5-Cl	H	4-CF$_3$	OCH$_2$
4-OCF$_2$H	5-Cl	H	4-CF$_3$	OCH$_2$
4-CF$_3$	4-F	Me	4-Cl	OCH$_2$
4-Cl	4-F	Me	4-Cl	OCH$_2$
4-Br	4-F	Me	4-Cl	OCH$_2$
4-OCF$_2$H	4-F	Me	4-Cl	OCH$_2$
4-CF$_3$	4-Cl	Me	4-Cl	OCH$_2$
4-Cl	4-Cl	Me	4-Cl	OCH$_2$
4-Br	4-Cl	Me	4-Cl	OCH$_2$
4-OCF$_2$H	4-Cl	Me	4-Cl	OCH$_2$
4-CF$_3$	5-F	Me	4-Cl	OCH$_2$
4-Cl	5-F	Me	4-Cl	OCH$_2$
4-Br	5-F	Me	4-Cl	OCH$_2$
4-OCF$_2$H	5-F	Me	4-Cl	OCH$_2$
4-CF$_3$	5-Cl	Me	4-Cl	OCH$_2$
4-Cl	5-Cl	Me	4-Cl	OCH$_2$
4-Br	5-Cl	Me	4-Cl	OCH$_2$
4-OCF$_2$H	5-Cl	Me	4-Cl	OCH$_2$
4-CF$_3$	5-Cl	Me	4-Cl	OCH$_2$
4-Cl	5-Cl	Me	4-Cl	OCH$_2$
4-Br	5-Cl	Me	4-Cl	OCH$_2$
4-OCF$_2$H	5-Cl	Me	4-Cl	OCH$_2$
4-F	5-F	H	H	CH$_2$O
4-Cl	5-F	H	H	CH$_2$O
4-Br	5-F	H	H	CH$_2$O
4-CF$_3$	5-F	H	H	CH$_2$O
4-OCF$_2$H	5-F	H	H	CH$_2$O

TABLE 11-continued



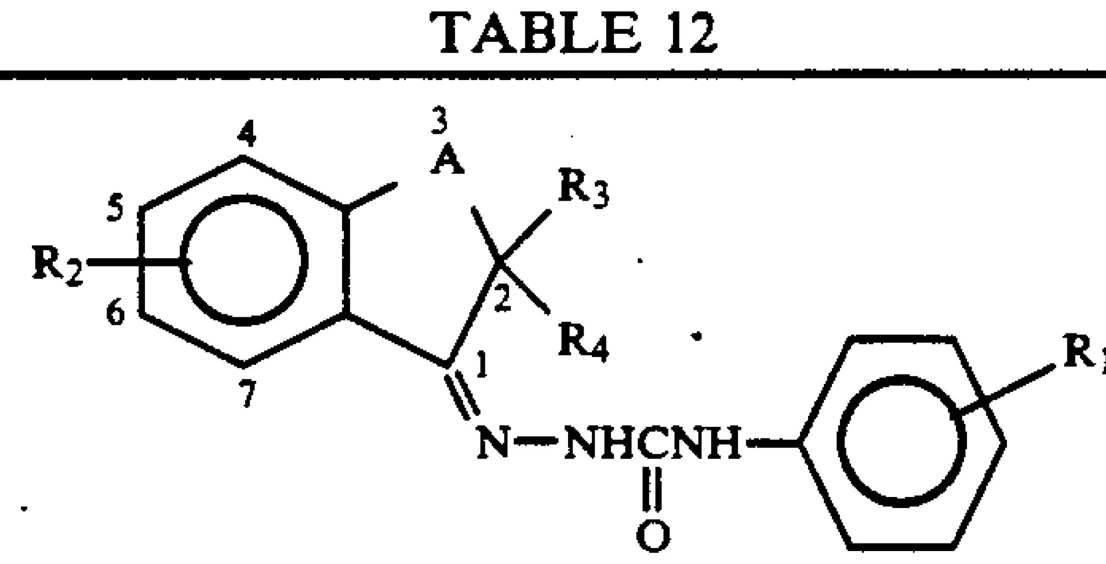
R1	R2	R4	R10	A
4-OCF$_3$	5-F	H	H	CH$_2$O
4-NO$_2$	5-F	H	H	CH$_2$O
4-SCF$_2$H	5-F	H	H	CH$_2$O
4-CN	5-F	H	H	CH$_2$O
3,4-CF$_2$CF$_2$O	5-F	H	H	CH$_2$O
3,4-CH$_2$C(Me)$_2$O	5-F	H	H	CH$_2$O
4-CF$_3$	4-Cl	H	4-Cl	CH$_2$O
4-Cl	4-Cl	H	4-Cl	CH$_2$O
4-Br	4-Cl	H	4-Cl	CH$_2$O
4-CF$_3$	4-Cl	H	4-F	CH$_2$O
4-Cl	4-Cl	H	4-F	CH$_2$O
4-Br	4-Cl	H	4-F	CH$_2$O
4-CF$_3$	5-Cl	H	4-CF$_3$	CH$_2$O
4-Cl	5-Cl	H	4-CF$_3$	CH$_2$O
4-Br	5-Cl	H	4-CF$_3$	CH$_2$O
4-OCF$_2$H	5-Cl	H	4-CF$_3$	CH$_2$O
4-CF$_3$	4-F	Me	4-Cl	CH$_2$O
4-Cl	4-F	Me	4-Cl	CH$_2$O
4-Br	4-F	Me	4-Cl	CH$_2$O
4-OCF$_2$H	4-F	Me	4-Cl	CH$_2$O
4-CF$_3$	4-Cl	Me	4-Cl	CH$_2$O
4-Cl	4-Cl	Me	4-Cl	CH$_2$O
4-Br	4-Cl	Me	4-Cl	CH$_2$O
4-OCF$_2$H	4-Cl	Me	4-Cl	CH$_2$O
4-CF$_3$	5-F	Me	4-Cl	CH$_2$O
4-Cl	5-F	Me	4-Cl	CH$_2$O
4-Br	5-F	Me	4-Cl	CH$_2$O
4-OCF$_2$H	5-F	Me	4-Cl	CH$_2$O
4-CF$_3$	5-Cl	Me	4-Cl	CH$_2$O
4-Cl	5-Cl	Me	4-Cl	CH$_2$O
4-Br	5-Cl	Me	4-Cl	CH$_2$O
4-OCF$_2$H	5-Cl	Me	4-Cl	CH$_2$O
4-CF$_3$	5-Cl	Me	4-Cl	CH$_2$O
4-Cl	5-Cl	Me	4-Cl	CH$_2$O
4-Br	5-Cl	Me	4-Cl	CH$_2$O
4-OCF$_2$H	5-Cl	Me	4-Cl	CH$_2$O
4-F	5-F	H	H	SCH$_2$
4-Cl	5-F	H	H	SCH$_2$
4-Br	5-F	H	H	SCH$_2$
4-CF$_3$	5-F	H	H	SCH$_2$
4-OCF$_2$H	5-F	H	H	SCH$_2$
4-OCF$_3$	5-F	H	H	SCH$_2$
4-Cl	5-Cl	H	H	SCH$_2$
4-Br	5-Cl	H	H	SCH$_2$
4-CF$_3$	5-Cl	H	H	SCH$_2$

TABLE 11-continued



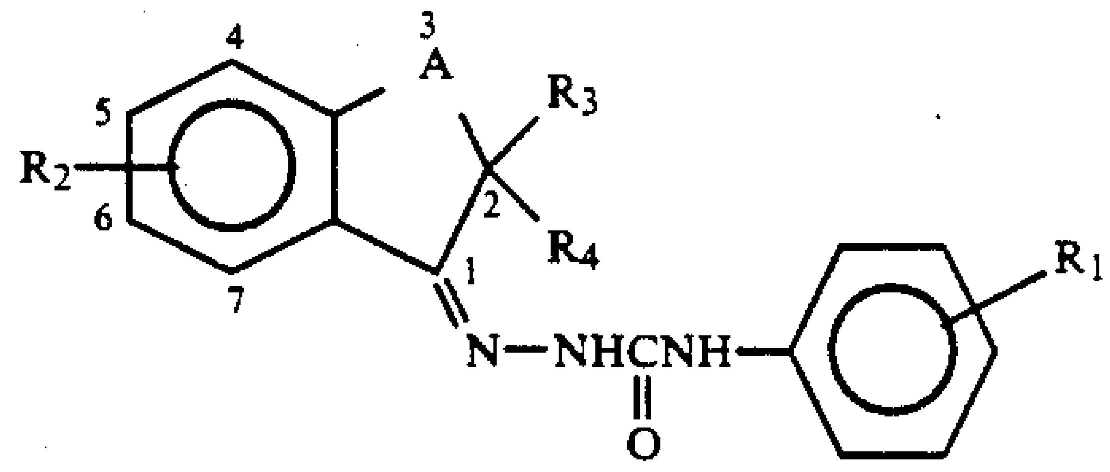
R1	R2	R4	R10	A
4-OCF$_2$H	5-Cl	H	H	SCH$_2$
4-OCF$_3$	5-Cl	H	H	SCH$_2$
4-CF$_3$	4-Cl	H	4-Cl	SCH$_2$
4-Cl	4-Cl	H	4-Cl	SCH$_2$
4-Br	4-Cl	H	4-Cl	SCH$_2$
4-CF$_3$	4-Cl	H	4-F	SCH$_2$
4-Cl	4-Cl	H	4-F	SCH$_2$
4-Br	4-Cl	H	4-F	SCH$_2$
4-CF$_3$	5-Cl	H	4-CF$_3$	SCH$_2$
4-Cl	5-Cl	H	4-CF$_3$	SCH$_2$
4-Br	5-Cl	H	4-CF$_3$	SCH$_2$
4-OCF$_2$H	5-Cl	H	4-CF$_3$	SCH$_2$
4-CF$_3$	4-F	Me	4-Cl	SCH$_2$
4-Cl	4-F	Me	4-Cl	SCH$_2$
4-Br	4-F	Me	4-Cl	SCH$_2$
4-OCF$_2$H	4-F	Me	4-Cl	SCH$_2$
4-CF$_3$	4-Cl	Me	4-Cl	SCH$_2$
4-Cl	4-Cl	Me	4-Cl	SCH$_2$
4-Br	4-Cl	Me	4-Cl	SCH$_2$
4-OCF$_2$H	4-Cl	Me	4-Cl	SCH$_2$
4-CF$_3$	5-F	Me	4-F	SCH$_2$
4-Cl	5-F	Me	4-F	SCH$_2$
4-Br	5-F	Me	4-F	SCH$_2$
4-OCF$_2$H	5-F	Me	4-F	SCH$_2$
4-CF$_3$	5-Cl	Me	4-Cl	SCH$_2$
4-Cl	5-Cl	Me	4-Cl	SCH$_2$
4-Br	5-Cl	Me	4-Cl	SCH$_2$
4-OCF$_2$H	5-Cl	Me	4-Cl	SCH$_2$
4-CF$_3$	5-Cl	Me	4-Cl	SCH$_2$
4-Cl	5-Cl	Me	4-Cl	SCH$_2$
4-Br	5-Cl	Me	4-Cl	SCH$_2$
4-OCF$_2$H	5-Cl	Me	4-Cl	SCH$_2$
4-F	5-F	H	H	CH$_2$S
4-Cl	5-F	H	H	CH$_2$S
4-Br	5-F	H	H	CH$_2$S
4-CF$_3$	5-F	H	H	CH$_2$S
4-OCF$_2$H	5-F	H	H	CH$_2$S
4-OCF$_3$	5-F	H	H	CH$_2$S
4-CF$_3$	4-F	H	4-Cl	CH$_2$S
4-Cl	4-F	H	4-Cl	CH$_2$S
4-Br	4-F	H	4-Cl	CH$_2$S
4-CF$_3$	5-F	H	4-F	CH$_2$S
4-Cl	5-F	H	4-F	CH$_2$S
4-Br	5-F	H	4-F	CH$_2$S

TABLE 12



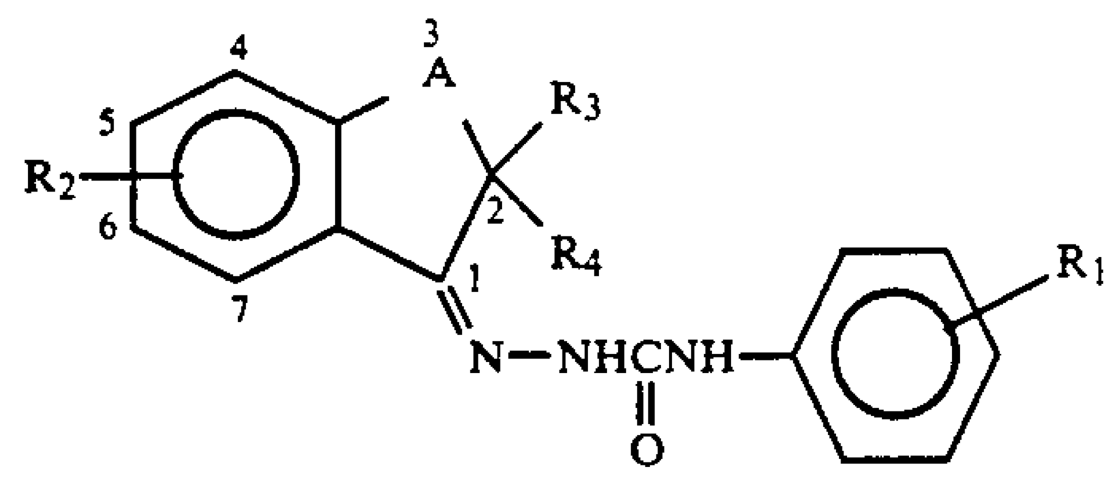
R1	R2	R3	R4	A
4-CF$_3$	H	H	H	CH$_2$
4-Cl	H	H	H	CH$_2$
4-Br	H	H	H	CH$_2$
4-OCF$_2$H	H	H	H	CH$_2$
4-OCF$_3$	H	H	H	CH$_2$
4-CF$_3$	4-F	H	H	CH$_2$
4-Cl	4-F	H	H	CH$_2$
4-Br	4-F	H	H	CH$_2$
4-OCF$_2$H	4-F	H	H	CH$_2$

TABLE 12-continued



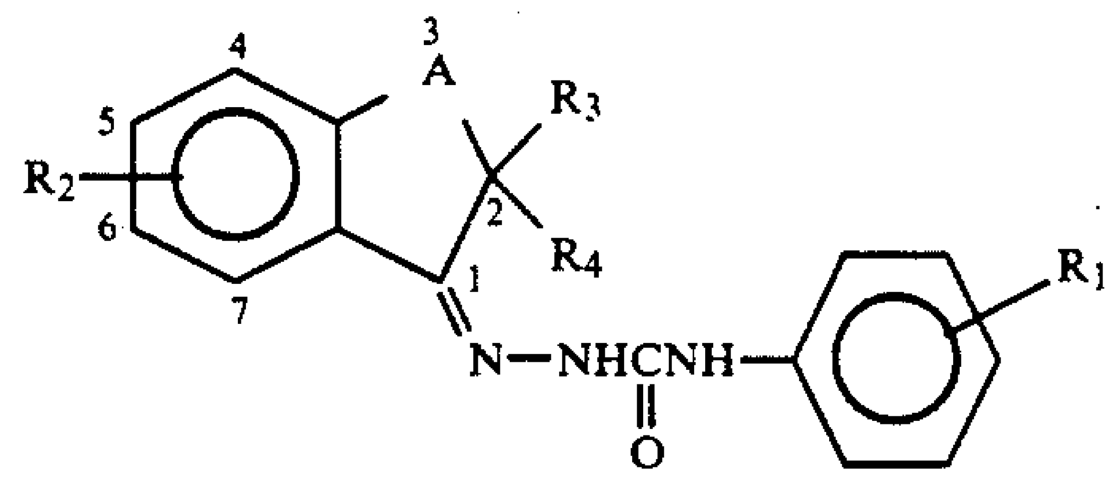
R_1	R_2	R_3	R_4	A
4-OCF_3	4-F	H	H	CH_2
4-CF_3	4-Cl	H	H	CH_2
4-Cl	4-Cl	H	H	CH_2
4-Br	4-Cl	H	H	CH_2
4-OCF_2H	4-Cl	H	H	CH_2
4-OCF_3	4-Cl	H	H	CH_2
4-OCF_2H	5-F	H	H	CH_2
4-OCF_3	5-F	H	H	CH_2
4-CF_3	4-F	Me	H	CH_2
4-Cl	4-F	Me	H	CH_2
4-Br	4-F	Me	H	CH_2
4-OCF_3	4-F	Me	H	CH_2
4-OCF_2H	4-F	Me	H	CH_2
4-OCF_3	5-Cl	Me	H	CH_2
4-OCF_2H	5-Cl	Me	H	CH_2
4-CF_3	5-CF_3	Me	H	CH_2
4-OCF_3	5-CF_3	Me	H	CH_2
4-Cl	5-CF_3	Me	H	CH_2
4-Br	5-CF_3	Me	H	CH_2
4-OCF_2H	5-CF_3	Me	H	CH_2
4-CF_3	5-OCF_2H	Me	H	CH_2
4-Cl	5-OCF_2H	Me	H	CH_2
4-Br	5-OCF_2H	Me	H	CH_2
4-OCF_3	5-OCF_2H	Me	H	CH_2
4-OCF_2H	5-OCF_2H	Me	H	CH_2
4-OCF_3	5-F	Me	H	CH_2
4-CF_3	5-Cl	Et	H	CH_2
4-Cl	5-Cl	Et	H	CH_2
4-Br	5-Cl	Et	H	CH_2
4-OCF_3	5-Cl	Et	H	CH_2
4-CF_3	5-OCF_2H	Et	H	CH_2
4-Cl	5-OCF_2H	Et	H	CH_2
4-Br	5-OCF_2H	Et	H	CH_2
4-OCF_3	5-OCF_2H	Et	H	CH_2
4-CF_3	5-F	n-Bu	H	CH_2
4-Cl	5-F	n-Bu	H	CH_2
4-Br	5-F	n-Bu	H	CH_2
4-OCF_3	5-F	n-Bu	H	CH_2
4-CF_3	4-F	n-Bu	H	CH_2
4-Cl	4-F	n-Bu	H	CH_2
4-Br	4-F	n-Bu	H	CH_2
4-OCF_3	4-F	n-Bu	H	CH_2
4-CF_3	5-Cl	allyl	H	CH_2
4-Cl	5-Cl	allyl	H	CH_2
4-Br	5-Cl	allyl	H	CH_2
4-OCF_3	5-F	i-Pr	H	CH_2
4-CF_3	4-F	i-Pr	H	CH_2
4-OCF_3	4-F	i-Pr	H	CH_2
4-CF_3	4-CF_3	i-Pr	H	CH_2
4-OCF_3	4-CF_3	i-Pr	H	CH_2
4-CF_3	5-OCF_2H	i-Pr	H	CH_2
4-OCF_3	5-OCF_2H	i-Pr	H	CH_2
4-CF_3	5-CF_3	i-Pr	H	CH_2
4-OCF_3	5-CF_3	i-Pr	H	CH_2
4-CF_3	5-Cl	Me	Me	CH_2
4-Cl	5-Cl	Me	Me	CH_2
4-Br	5-Cl	Me	Me	CH_2
4-CF_3	5-F	Me	Me	CH_2
4-Cl	5-F	Me	Me	CH_2
4-Br	5-F	Me	Me	CH_2
4-CF_3	5-OCF_2H	Me	Me	CH_2
4-Cl	5-OCF_2H	Me	Me	CH_2
4-Br	5-OCF_2H	Me	Me	CH_2
4-CF_3	5-OCF_3	Me	Me	CH_2
4-Cl	5-OCF_3	Me	Me	CH_2
4-Br	5-OCF_3	Me	Me	CH_2
4-CF_3	4-F	Me	Me	CH_2
4-Cl	4-F	Me	Me	CH_2
4-Br	4-F	Me	Me	CH_2
4-CF_3	5-Br	Me	Me	CH_2
4-Cl	5-Br	Me	Me	CH_2

TABLE 12-continued



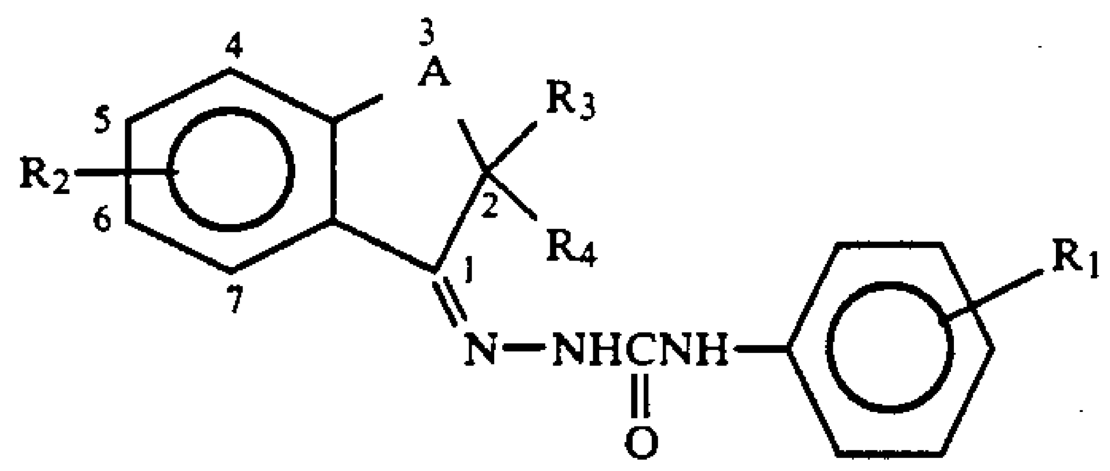
R1	R2	R3	R4	A
4-Br	5-Br	Me	Me	CH_2
4-CF_3	5-Cl	CH_2Ph	H	CH_2
4-Cl	5-Cl	CH_2Ph	H	CH_2
4-Br	5-Cl	CH_2Ph	H	CH_2
4-OCF_3	5-Cl	CH_2Ph	H	CH_2
4-OCF_2H	5-Cl	CH_2Ph	H	CH_2
4-CF_3	5-F	CH_2Ph-4-F	H	CH_2
4-Cl	5-F	CH_2Ph-4-F	H	CH_2
4-Br	5-F	CH_2Ph-4-F	H	CH_2
4-OCF_2H	5-F	CH_2Ph-4-F	H	CH_2
4-OCF_3	5-F	CH_2Ph-4-F	H	CH_2
4-CF_3	5-OCF_2H	CH_2Ph-4-F	H	CH_2
4-Cl	5-OCF_2H	CH_2Ph-4-F	H	CH_2
4-Br	5-OCF_2H	CH_2Ph-4-F	H	CH_2
4-OCF_3	5-OCF_2H	CH_2Ph-4-F	H	CH_2
4-OCF_2H	5-OCF_2H	CH_2Ph-4-F	H	CH_2
4-CF_3	5-Cl	CH_2Ph-4-Cl	H	CH_2
4-Cl	5-Cl	CH_2Ph-4-Cl	H	CH_2
4-Br	5-Cl	CH_2Ph-4-Cl	H	CH_2
4-OCF_3	5-Cl	CH_2Ph-4-Cl	H	CH
4-OCF_2H	5-Cl	CH_2Ph-4-Cl	H	CH_2
4-CF_3	5-Cl	CO_2Me	H	CH_2
4-Cl	5-Cl	CO_2Me	H	CH_2
4-Br	5-Cl	CO_2Me	H	CH_2
4-OCF_2H	5-Cl	CO_2Me	H	CH_2
4-OCF_3	5-Cl	CO_2Me	H	CH_2
4-CF_3	5-F	CO_2Me	H	CH_2
4-Cl	5-F	CO_2Me	H	CH_2
4-Br	5-F	CO_2Me	H	CH_2
4-OCF_2H	5-F	CO_2Me	H	CH_2
4-OCF_3	5-F	CO_2Me	H	CH_2
4-CF_3	4-F	CO_2Me	H	CH_2
4-Cl	4-F	CO_2Me	H	CH_2
4-Br	4-F	CO_2Me	H	CH_2
4-CF_3	4-Cl	CO_2Me	H	CH_2
4-Cl	4-Cl	CO_2Me	H	CH_2
4-Br	4-Cl	CO_2Me	H	CH_2
4-CF_3	5-CF_3	CO_2Me	H	CH_2
4-OCF_3	5-CF_3	CO_2Me	H	CH_2
4-CF_3	5-OCF_3	CO_2Me	H	CH_2
4-OCF_3	5-OCF_3	CO_2Me	H	CH_2
4-CF_3	H	CO_2Me	Me	CH_2
4-Cl	H	CO_2Me	Me	CH_2
4-Br	H	CO_2Me	Me	CH_2
4-OCF_2H	H	CO_2Me	Me	CH_2
4-OCF_3	H	CO_2Me	Me	CH_2
3,4-CF_2CF_2O	H	CO_2Me	Me	CH_2
3,4-$CH_2C(Me)_2O$	H	CO_2Me	Me	CH_2
4-CF_3	5-Cl	CO_2Me	Me	CH_2
4-Cl	5-Cl	CO_2Me	Me	CH_2
4-Br	5-Cl	CO_2Me	Me	CH_2
4-OCF_2H	5-Cl	CO_2Me	Me	CH_2
4-OCF_3	5-Cl	CO_2Me	Me	CH_2
3,4-CF_2CF_2O	5-Cl	CO_2Me	Me	CH_2
3,4-$CF_2C(Me)_2O$	5-Cl	CO_2Me	Me	CH_2
4-CF_3	5-F	CO_2Me	Me	CH_2
4-Cl	5-F	CO_2Me	Me	CH_2
4-Br	5-F	CO_2Me	Me	CH_2
4-OCF_2H	5-F	CO_2Me	Me	CH_2
4-OCF_3	5-F	CO_2Me	Me	CH_2
3,4-CF_2CF_2O	5-F	CO_2Me	Me	CH_2
3,4-$CH_2C(Me)_2O$	5-F	CO_2Me	Me	CH_2
4-CF_3	4-F	CO_2Me	Me	CH_2
4-Cl	4-F	CO_2Me	Me	CH_2
4-Br	4-F	CO_2Me	Me	CH_2
4-OCF_3	4-F	CO_2Me	Me	CH_2
4-OCF_2H	4-F	CO_2Me	Me	CH_2
3,4-CF_2CF_2O	4-F	CO_2Me	Me	CH_2
3,4-$CH_2C(Me)_2O$	4-F	CO_2Me	Me	CH_2
4-CF_3	5-Me	CO_2Me	Me	CH_2
4-Cl	5-Me	CO_2Me	Me	CH_2

TABLE 12-continued



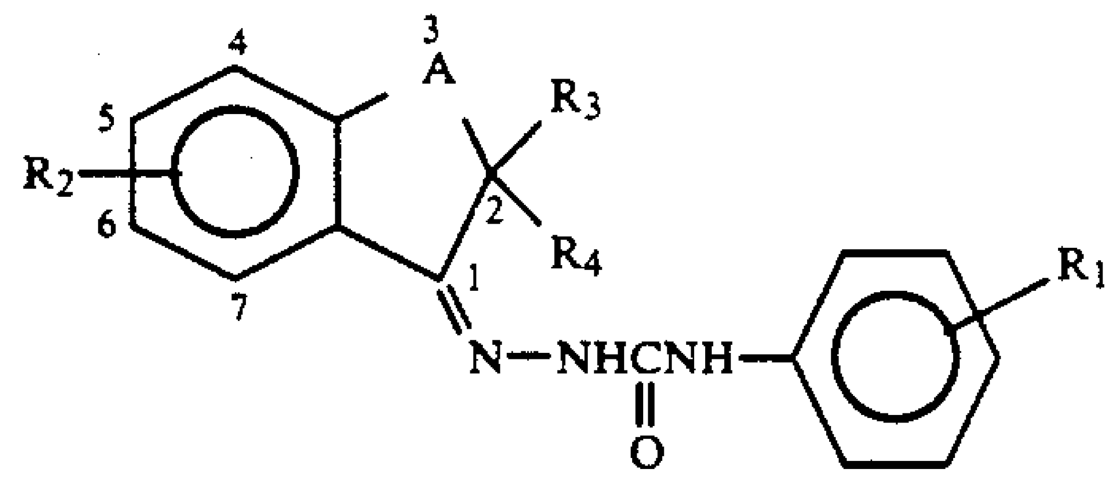
R_1	R_2	R_3	R_4	A
4-Br	5-Me	CO_2Me	Me	CH_2
4-OCF_3	5-Me	CO_2Me	Me	CH_2
4-OCF_2H	5-Me	CO_2Me	Me	CH_2
3,4-CF_2CF_2O	5-Me	CO_2Me	Me	CH_2
3,4-$CH_2C(Me)_2O$	5-Me	CO_2Me	Me	CH_2
4-CF_3	5-Br	CO_2Me	Me	CH_2
4-Cl	5-Br	CO_2Me	Me	CH_2
4-Br	5-Br	CO_2Me	Me	CH_2
4-OCF_3	5-Br	CO_2Me	Me	CH_2
4-OCF_2H	5-Br	CO_2Me	Me	CH_2
3,4-CF_2CF_2O	5-Br	CO_2Me	Me	CH_2
3,4-$CH_2C(Me)_2O$	5-Br	CO_2Me	Me	CH_2
4-CF_3	5-OCF_2H	CO_2Me	Me	CH_2
4-Cl	5-OCF_2H	CO_2Me	Me	CH_2
4-Br	5-OCF_2H	CO_2Me	Me	CH
4-OCF_3	5-OCF_2H	CO_2Me	Me	CH_2
4-OCF_2H	5-OCF_2H	CO_2Me	Me	CH_2
3,4-CF_2CF_2O	5-OCF_2H	CO_2Me	Me	CH_2
3,4-$CH_2C(Me)_2O$	5-OCF_2H	CO_2Me	Me	CH_2
4-CF_3	5-OCF_3	CO_2Me	Me	CH_2
4-Cl	5-OCF_3	CO_2Me	Me	CH_2
4-Br	5-OCF_3	CO_2Me	Me	CH_2
4-OCF_2H	5-OCF_3	CO_2Me	Me	CH_2
4-OCF_3	5-OCF_3	CO_2Me	Me	CH_2
3,4-CF_2CF_2O	5-OCF_3	CO_2Me	Me	CH_2
3,4-$CH_2C(Me)_2O$	5-OCF_3	CO_2Me	Me	CH_2
4-CF_3	5-CN	COzMe	Me	CH_2
4-Cl	5-CN	CO_2Me	Me	CH_2
4-Br	5-CN	CO_2Me	Me	CH_2
4-OCF_2H	5-CN	CO_2Me	Me	CH_2
4-OCF_3	5-CN	CO_2Me	Me	CH_2
4-CF_3	5-CF_3	CO_2Me	Me	CH_2
4-OCF_3	5-CF_3	CO_2Me	Me	CH_2
4-CF_3	6-F	CO_2Me	Me	CH_2
4-Cl	6-F	CO_2Me	Me	CH_2
4-Br	6-F	CO_2Me	Me	CH_2
4-OCF_2H	6-F	CO_2Me	Me	CH_2
4-OCF_3	6-F	CO_2Me	Me	CH_2
4-CF_3	5-Cl	CO_2Me	Et	CH_2
4-Cl	5-Cl	CO_2Me	Et	CH_2
4-Br	5-Cl	CO_2Me	Et	CH_2
4-CF_3	5-Cl	CO_2Me	CH_2Ph	CH_2
4-Cl	5-Cl	CO_2Me	CH_2Ph	CH_2
4-Br	5-Cl	CO_2Me	CH_2Ph	CH_2
4-CF_3	5-Cl	CO_2Me	allyl	CH_2
4-Cl	5-Cl	CO_2Me	allyl	CH_2
4-Br	5-Cl	CO_2Me	allyl	CH_2
4-CF_3	5-F	CO_2Et	Me	CH_2
4-Cl	5-F	CO_2Et	Me	CH_2
4-Br	5-F	CO_2Et	Me	CH_2
4-CF_3	5-F	$CO_2CH_2CF_3$	Me	CH_2
4-Cl	5-F	$CO_2CH_2CF_3$	Me	CH_2
4-Br	5-F	$CO_2CH_2CF_3$	Me	CH_2
4-CF_3	5-F	CO_2Ph	Me	CH_2
4-Cl	5-F	CO_2Ph	Me	CH_2
4-Br	5-F	CO_2Ph	Me	CH_2
4-CF_3	5-Cl	CO_2H	H	CH_2
4-CF_3	5-Cl	CONHMe	H	CH_2
4-CF_3	5-Cl	CONMe	H	CH_2
4-CF_3	5-Cl	CONHPh	H	CH_2
4-CF_3	5-Cl	$CSNMe_2$	H	CH_2
4-CF_3	5-Cl	propargyl	Me	CH_2
4-CF_3	5-Cl	CH_2CH_2CN	Me	CH_2
4-CF_3	5-Cl	CH_2CO_2Me	Me	CH_2
4-CF_3	5-Cl	CH_2OMe	Me	CH_2
4-CF_3	5-Cl	OMe	H	CH_2
4-CF_3	5-Cl	SMe	H	CH_2
4-CF_3	5-cl	SO_2Me	H	CH_2
4-CF_3	5-Cl	C(O)Me	Me	CH_2
4-CF_3	5-Cl	C(O)Et	Me	CH_2
4-CF_3	5-Cl	C(O)Me	H	CH_2

TABLE 12-continued



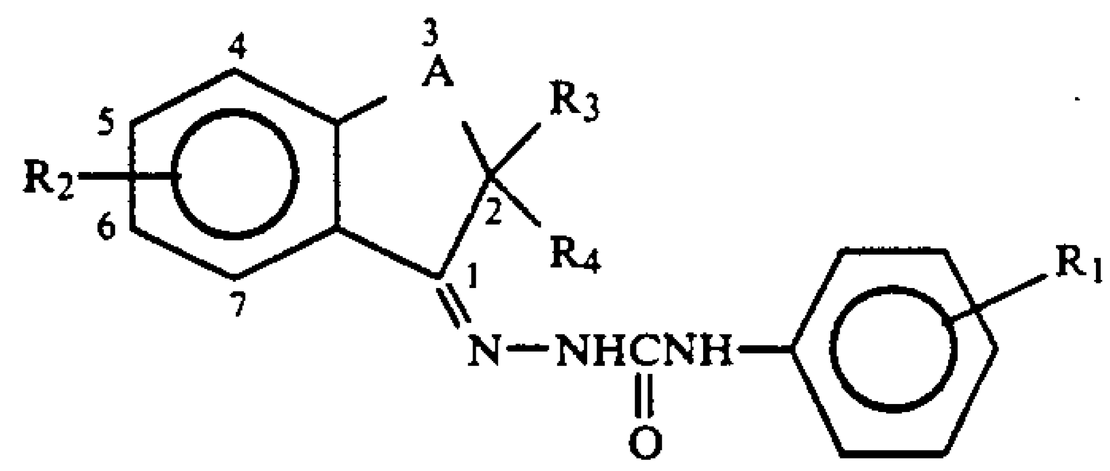
R1	R2	R3	R4	A
4-CF_3	5-Cl	C(O)Et	H	CH_2
4-CF_3	5-Cl	CN	Me	CH_2
4-CF_3	5-Cl	CN	Et	CH_2
4-CF_3	5-Cl	CN	CH_2Ph	CH_2
4-CF_3	5-Cl	CN	H	CH_2
4-CF_3	H	H	H	CH_2CH_2
4-Cl	H	H	H	CH_2CH_2
4-Br	H	H	H	CH_2CH_2
4-OCF_2H	H	H	H	CH_2CH_2
4-CF_3	4-F	H	H	CH_2CH_2
4-Cl	4-F	H	H	CH_2CH_2
4-Br	4-F	H	H	CH_2CH_2
4-OCF_2H	4-F	H	H	CH_2CH_2
4-CF_3	4-Cl	H	H	CH_2CH_2
4-Cl	4-Cl	H	H	CH_2CH_2
4-Br	4-Cl	H	H	CH_2CH_2
4-OCF_2H	4-Cl	H	H	CH_2CH_2
4-CF_3	5-F	H	H	CH_2CH_2
4-Cl	5-F	H	H	CH_2CH_2
4-Br	5-F	H	H	CH_2CH_2
4-OCF_2H	5-F	H	H	CH_2CH_2
4-CF_3	6-F	H	H	CH_2CH_2
4-Cl	6-F	H	H	CH_2CH_2
4-Br	6-F	H	H	CH_2CH_2
4-OCF_2H	6-F	H	H	CH_2CH_2
4-CF_3	6-Cl	H	H	CH_2CH_2
4-Cl	6-Cl	H	H	CH_2CH_2
4-Br	6-Cl	H	H	CH_2CH_2
4-OCF_2H	6-Cl	H	H	CH_2CH_2
4-CF_3	4-F	Me	H	CH_2CH_2
4-Cl	4-F	Me	H	CH_2CH_2
4-Br	4-F	Me	H	CH_2CH_2
4-OCF_2H	4-F	Me	H	CH_2CH_2
4-CF_3	5-Cl	Me	H	CH_2CH_2
4-Cl	5-Cl	Me	H	CH_2CH_2
4-Br	5-Cl	Me	H	CH_2CH_2
4-OCF_2H	5-Cl	Me	H	CH_2CH_2
4-CF_3	5-OCF_2H	Me	H	CH_2CH_2
4-Cl	5-OCF_2H	Me	H	CH_2CH_2
4-Br	5-OCF_2H	Me	H	CH_2CH_2
4-OCF_2H	5-OCF_2H	Me	H	CH_2CH_2
4-CF_3	5-F	Me	H	CH_2CH_2
4-Cl	5-F	Me	H	CH_2CH_2
4-Br	5-F	Me	H	CH_2CH_2
4-CF_3	5-Cl	Et	H	CH_2CH_2
4-Cl	5-Cl	Et	H	CH_2CH_2
4-Br	5-Cl	Et	H	CH_2CH_2
4-CF_3	5-OCF_2H	Et	H	CH_2CH_2
4-Cl	5-OCF_2H	Et	H	CH_2CH_2
4-Br	5-OCF_2H	Et	H	CH_2CH_2
4-CF_3	5-F	n-Bu	H	CH_2CH_2
4-Cl	5-F	n-Bu	H	CH_2CH_2
4-Br	5-F	n-Bu	H	CH_2CH_2
4-CF_3	4-F	n-Bu	H	CH_2CH_2
4-Cl	4-F	n-Bu	H	CH_2CH_2
4-Br	4-F	n-Bu	H	CH_2CH_2
4-CF_3	5-Cl	allyl	H	CH_2CH_2
4-Cl	5-Cl	allyl	H	CH_2CH_2
4-Br	5-Cl	allyl	H	CH_2CH_2
4-CF_3	5-Cl	Me	Me	CH_2CH_2
4-Cl	5-Cl	Me	Me	CH_2CH_2
4-Br	5-Cl	Me	Me	CH_2CH_2
4-CF_3	5-F	Me	Me	CH_2CH_2
4-Cl	5-F	Me	Me	CH_2CH_2
4-Br	5-F	Me	Me	CH_2CH_2
4-CF_3	5-OCF_2H	Me	Me	CH_2CH_2
4-Cl	5-OCF_2H	Me	Me	CH_2CH_2
4-Br	5-OCF_2H	Me	Me	CH_2CH_2
4-CF_3	5-OCF_3	Me	Me	CH_2CH_2
4-Cl	5-OCF_3	Me	Me	CH_2CH_2
4-Br	5-OCF_3	Me	Me	CH_2CH_2

TABLE 12-continued



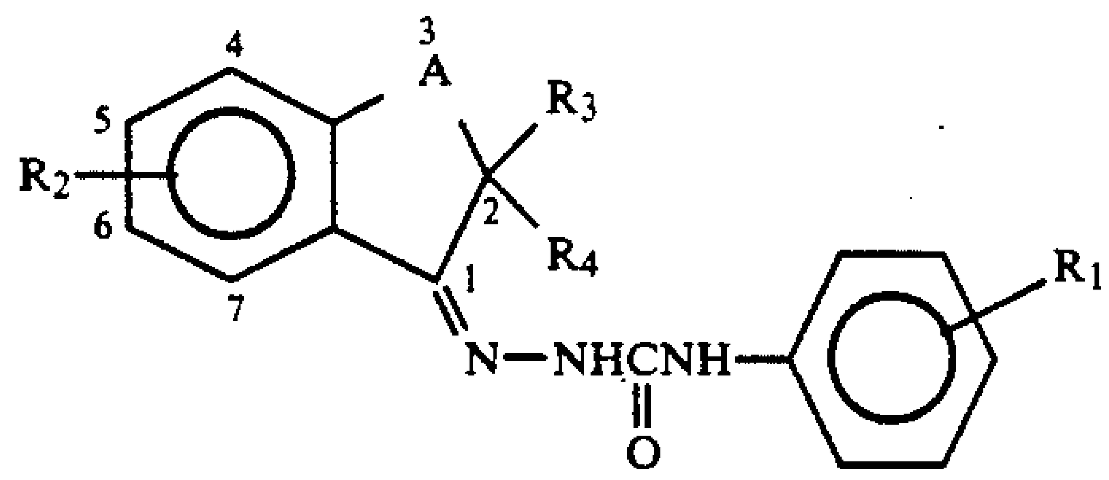
R_1	R_2	R_3	R_4	A
4-CF_3	4-F	Me	Me	CH_2CH_2
4-Cl	4-F	Me	Me	CH_2CH_2
4-Br	4-F	Me	Me	CH_2CH_2
4-CF_3	5-Br	Me	Me	CH_2CH_2
4-Cl	5-Br	Me	Me	CH_2CH_2
4-Br	5-Br	Me	Me	CH_2CH_2
4-CF_3	5-Cl	CH_2Ph	H	CH_2CH_2
4-Cl	5-Cl	CH_2Ph	H	CH_2CH_2
4-Br	5-Cl	CH_2Ph	H	CH_2CH_2
4-OCF_3	5-Cl	CH_2Ph	H	CH_2CH_2
4-oCF_2H	5-Cl	CH_2Ph	H	CH_2CH_2
4-CF_3	5-F	CH_2Ph-4-F	H	CH_2CH_2
4-Cl	5-F	CH_2Ph-4-F	H	CH_2CH_2
4-Br	5-F	CH_2Ph-4-F	H	CH_2CH_2
4-OCF_2H	5-F	CH_2Ph-4-F	H	CH_2CH_2
4-OCF_3	5-F	CH_2Ph-4-F	H	CH_2CH_2
4-CF_3	5-OCF_2H	CH_2Ph-4-F	H	CH_2CH_2
4-Cl	5-OCF_2H	CH_2Ph-4-F	H	CH_2CH_2
4-Br	5-OCF_2H	CH_2Ph-4-F	H	CH_2CH_2
4-OCF_3	5-OCF_2H	CH_2Ph-4-F	H	CH_2CH_2
4-OCF_2H	5-OCF_2H	CH_2Ph-4-F	H	CH_2CH_2
4-CF_3	5-Cl	CH_2Ph-4-Cl	H	CH_2CH_2
4-Cl	5-Cl	CH_2Ph-4-Cl	H	CH_2CH_2
4-Br	5-Cl	CH_2Ph-4-Cl	H	CH_2CH_2
4-OCF_3	5-Cl	CH_2Ph-4-Cl	H	CH_2CH_2
4-OCF_2H	5-Cl	CH_2Ph-4-Cl	H	CH_2CH_2
4-CF_3	H	CO_2Me	H	CH_2CH_2
4-Cl	H	CO_2Me	H	CH_2CH_2
4-Br	H	CO_2Me	H	CH_2CH_2
4-OCF_2H	H	CO_2Me	H	CH_2CH_2
4-F	H	CO_2Me	H	CH_2CH_2
4-CF_3	5-Cl	CO_2Me	H	CH_2CH_2
4-Cl	5-Cl	CO_2Me	H	CH_2CH_2
4-Br	5-Cl	CO_2Me	H	CH_2CH_2
4-OCF_2H	5-Cl	CO_2Me	H	CH_2CH_2
4-OCF_3	5-Cl	CO_2Me	H	CH_2CH_2
4-NO_2	5-Cl	CO_2Me	H	CH_2CH_2
4-CF_3	5-F	CO_2Me	H	CH_2CH_2
4-Cl	5-F	CO_2Me	H	CH_2CH_2
4-Br	5-F	CO_2Me	H	CH_2CH_2
4-OCF_2H	5-F	CO_2Me	H	CH_2CH_2
4-OCF_3	5-F	CO_2Me	H	CH_2CH_2
4-CN	5-F	CO_2Me	H	CH_2CH_2
4-CF_3	4-F	CO_2Me	H	CH_2CH_2
4-Cl	4-F	CO_2Me	H	CH_2CH_2
4-Br	4-F	CO_2Me	H	CH_2CH_2
4-CF_3	4-Cl	CO_2Me	H	CH_2CH_2
4-Cl	4-Cl	CO_2Me	H	CH_2CH_2
4-Br	4-Cl	CO_2Me	H	CH_2CH_2
4-CF_3	5-Cl	CO_2Me	Me	CH_2CH_2
4-Cl	5-Cl	CO_2Me	Me	CH_2CH_2
4-Br	5-Cl	CO_2Me	Me	CH_2CH_2
4-OCF_2H	5-Cl	CO_2Me	Me	CH_2CH_2
4-OCF_3	5-Cl	CO_2Me	Me	CH_2CH_2
3,4-CF_2CF_2O	5-Cl	CO_2Me	Me	CH_2CH_2
3,4-$CF_2C(Me)_2O$	5-Cl	CO_2Me	Me	CH_2CH_2
4-CF_3	5-F	CO_2Me	Me	CH_2CH_2
4-Cl	5-F	CO_2Me	Me	CH_2CH_2
4-Br	5-F	CO_2Me	Me	CH_2CH_2
4-OCF_2H	5-F	CO_2Me	Me	CH_2CH_2
4-OCF_3	5-F	CO_2Me	Me	CH_2CH_2
3,4-CF_2CF_2O	5-F	CO_2Me	Me	CH_2CH_2
3,4-$CH_2C(Me)_2O$	5-F	CO_2Me	Me	CH_2CH_2
4-CF_3	H	H	H	O
4-Cl	H	H	H	O
4-Br	H	H	H	O
4-OCF_3	H	H	H	O
4-OCF_2H	H	H	H	O
4-CF_3	4-F	H	H	O
4-Cl	4-F	H	H	O
4-Br	4-F	H	H	O

TABLE 12-continued



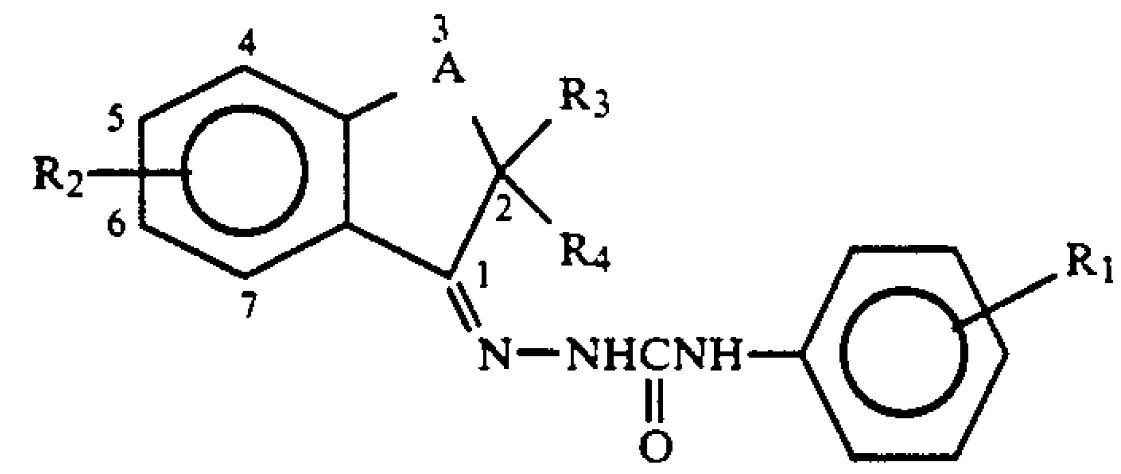
R_1	R_2	R_3	R_4	A
4-OCF_3	4-F	H	H	O
4-OCF_2H	4-F	H	H	O
4-CF_3	4-Cl	H	H	O
4-Cl	4-Cl	H	H	O
4-Br	4-Cl	H	H	O
4-OCF_3	4-Cl	H	H	O
4-OCF_2H	4-Cl	H	H	O
4-CF_3	5-F	H	H	O
4-Cl	5-F	H	H	O
4-Br	5-F	H	H	O
4-OCF_3	5-F	H	H	O
4-OCF_2H	5-F	H	H	O
4-CF_3	6-F	H	H	O
4-CF_3	4-F	Me	H	O
4-Cl	4-F	Me	H	O
4-Br	4-F	Me	H	O
4-OCF_3	4-F	Me	H	O
4-OCF_2H	4-F	Me	H	O
4-CF_3	5-Cl	Me	H	O
4-Cl	5-Cl	Me	H	O
4-Br	5-Cl	Me	H	O
4-OCF_3	5-Cl	Me	H	O
4-OCF_2H	5-Cl	Me	H	O
4-CF_3	5-OCF_2H	Me	H	O
4-Cl	5-OCF_2H	Me	H	O
4-Br	5-OCF_2H	Me	H	O
4-OCF_3	5-OCF_2H	Me	H	O
4-OCF_2H	5-OCF_2H	Me	H	O
4-CF_3	5-CF_3	Me	H	O
4-Cl	5-CF_3	Me	H	O
4-Br	5-CF_3	Me	H	O
4-OCF_3	5-CF_3	Me	H	O
4-OCF_2H	5-CF_3	Me	H	O
4-CF_3	5-F	Me	H	O
4-Cl	5-F	Me	H	O
4-Br	5-F	Me	H	O
4-OCF_3	5-F	Me	H	O
4-CF_3	5-Cl	Et	H	O
4-Cl	5-Cl	Et	H	O
4-Br	5-Cl	Et	H	O
4-CF_3	5-OCF_2H	Et	H	O
4-Cl	5-OCF_2H	Et	H	O
4-Br	5-OCF_2H	Et	H	O
4-CF_3	5-F	n-Bu	H	O
4-Cl	5-F	n-Bu	H	O
4-Br	5-F	n-Bu	H	O
4-CF_3	4-F	n-Bu	H	O
4-Cl	4-F	n-Bu	H	O
4-Br	4-F	n-Bu	H	O
4-CF_3	5-Cl	allyl	H	O
4-Cl	5-Cl	allyl	H	O
4-Br	5-Cl	allyl	H	O
4-CF_3	5-Cl	Me	Me	O
4-Cl	5-Cl	Me	Me	O
4-Br	5-Cl	Me	Me	O
4-CF_3	5-F	Me	Me	O
4-Cl	5-F	Me	Me	O
4-Br	5-F	Me	Me	O
4-CF_3	5-OCF_2H	Me	Me	O
4-Cl	5-OCF_2H	Me	Me	O
4-Br	5-OCF_2H	Me	Me	O
4-CF_3	5-OCF_3	Me	Me	O
4-Cl	5-OCF_3	Me	Me	O
4-Br	5-OCF_3	Me	Me	O
4-CF_3	4-F	Me	Me	O
4-Cl	4-F	Me	Me	O
4-Br	4-F	Me	Me	O
4-CF_3	5-Br	Me	Me	O
4-Cl	5-Br	Me	Me	O
4-Br	5-Br	Me	Me	O
4-OCF_3	5-Cl	allyl	Me	O

TABLE 12-continued



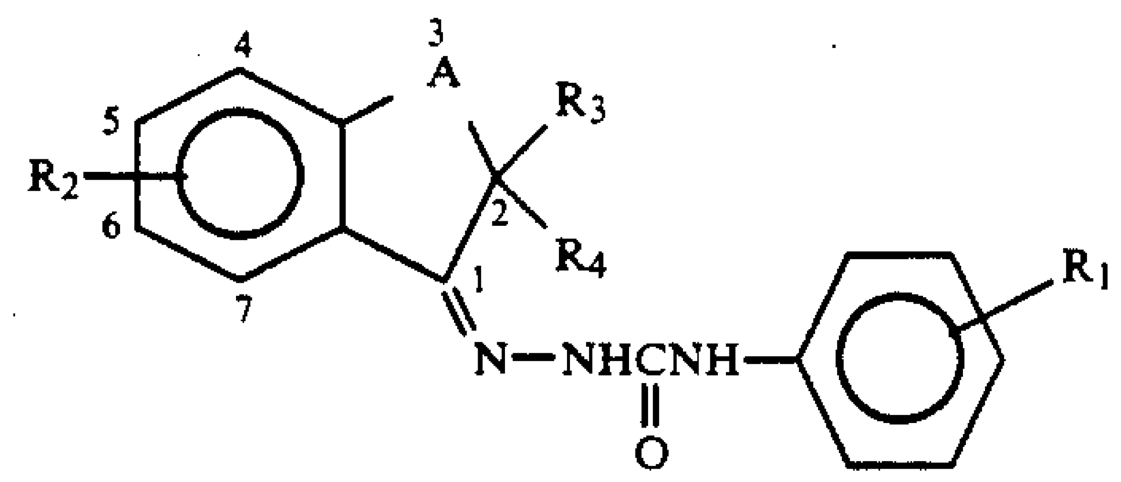
R_1	R_2	R_3	R_4	A
4-CF_3	5-F	allyl	Me	O
4-OCF_3	5-F	allyl	Me	O
4-CF_3	5-F	Et	Me	O
4-OCF_3	5-F	Et	Me	O
4-CF_3	5-Cl	Et	Me	O
4-OCF_3	5-Cl	Et	Me	O
4-CF_3	5-CF_3	Et	Me	O
4-CF_3	5-CF_3	allyl	Me	O
4-OCF_3	5-CF_3	allyl	Me	O
4-CF_3	5-F	CH_2Ph	Me	O
4-OCF_3	5-F	CH_2Ph	Me	O
4-CF_3	5-Cl	CH_2Ph	Me	O
4-OCF_3	5-Cl	CH_2Ph	Me	O
4-CF_3	5-Cl	CH_2Ph	H	O
4-Cl	5-Cl	CH_2Ph	H	O
4-Br	5-Cl	CH_2Ph	H	O
4-OCF_3	5-Cl	CH_2Fh	H	O
4-OCF_2H	5-Cl	CH_2Ph	H	O
4-CF_3	5-F	CH_2Ph-4-F	H	O
4-Cl	5-F	CH_2Ph-4-F	H	O
4-Br	5-F	CH_2Ph-4-F	H	O
4-OCF_2H	5-F	CH_2Ph-4-F	H	O
4-OCF_3	5-F	CH_2Ph-4-F	H	O
4-CF_3	5-OCF_2H	CH_2Ph-4-F	H	O
4-Cl	5-OCF_2H	CH_2Ph-4-F	H	O
4-Br	5-OCF_2H	CH_2Ph-4-F	H	O
4-OCF_3	5-OCF_2H	CH_2Ph-4-F	H	O
4-OCF_2H	5-OCF_2H	CH_2Ph-4-F	H	O
4-CF_3	5-Cl	CH_2Ph-4-Cl	H	O
4-Cl	5-Cl	CHZPh-4-Cl	H	O
4-Br	5-Cl	CH_2Ph-4-Cl	H	O
4-OCF_3	5-Cl	CH_2Ph-4-Cl	H	O
4-OCF_2H	5-Cl	CH_2Ph-4-Cl	H	O
4-CF_3	H	CO_2Me	H	O
4-Cl	H	CO_2Me	H	O
4-Br	H	CO_2Me	H	O
4-OCF_2H	H	CO_2Me	H	O
4-F	H	CO_2Me	H	O
4-CF_3	5-Cl	CO_2Me	H	O
4-Cl	5-Cl	CO_2Me	H	O
4-Br	5-Cl	CO_2Me	H	O
4-OCF_2H	5-Cl	CO_2Me	H	O
4-OCF_3	5-Cl	CO_2Me	H	O
4-NO_2	5-Cl	CO_2Me	H	O
4-CF_3	5-F	CO_2Me	H	O
4-Cl	5-F	CO_2Me	H	O
4-Br	5-F	CO_2Me	H	O
4-OCF_2H	5-F	CO_2Me	H	O
4-OCF_3	5-F	CO_2Me	H	O
4-CN	5-F	CO_2Me	H	O
4-CF_3	4-F	CO_2Me	H	O
4-Cl	4-F	CO_2Me	H	O
4-Br	4-F	CO_2Me	H	O
4-CF_3	4-Cl	CO_2Me	H	O
4-Cl	4-Cl	CO_2Me	H	O
4-Br	4-Cl	CO_2Me	H	O
4-CF_3	H	CO_2Me	Me	O
4-Cl	H	CO_2Me	Me	O
4-Br	H	CO_2Me	Me	O
4-OCF_2H	H	CO_2Me	Me	O
4-OCF_3	H	CO_2Me	Me	O
4-CF_3	5-Cl	CO_2Me	Me	O
4-Cl	5-Cl	CO_2Me	Me	O
4-Br	5-Cl	CO_2Me	Me	O
4-OCF_2H	5-Cl	CO_2Me	Me	O
4-OCF_3	5-Cl	CO_2Me	Me	O
4-CF_3	5-F	CO_2Me	Me	O
4-Cl	5-F	CO_2Me	Me	O
4-Br	5-F	CO_2Me	Me	O
4-OCF_2H	5-F	CO_2Me	Me	O
4-OCF_3	5-F	CO_2Me	Me	O

TABLE 12-continued



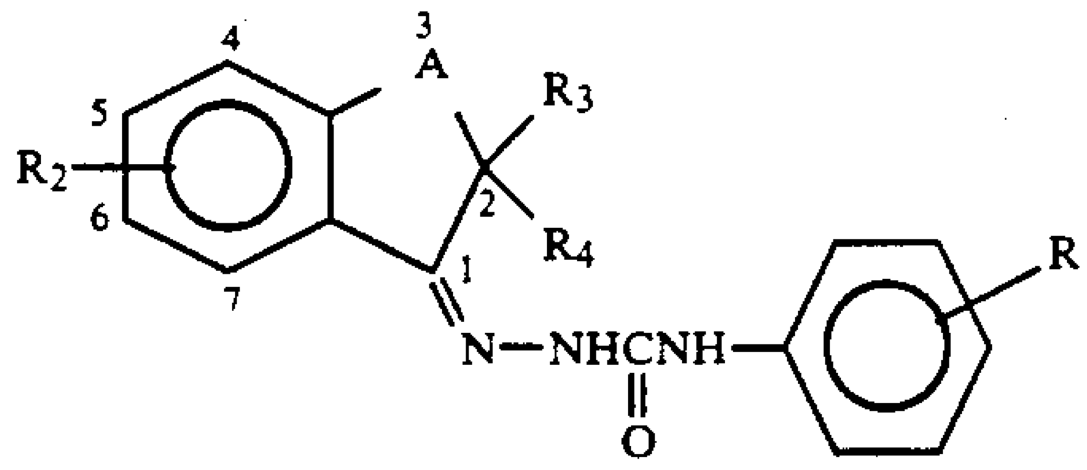
R1	R2	R3	R4	A
4-CF_3	4-F	CO_2Me	Me	O
4-Cl	4-F	CO_2Me	Me	O
4-Br	4-F	CO_2Me	Me	O
4-OCF_3	4-F	CO_2Me	Me	O
4-OCF_2H	4-F	CO_2Me	Me	O
3,4-CF_2CF_2O	4-F	CO_2Me	Me	O
3,4-$CH_2C(Me)_2O$	4-F	CO_2Me	Me	O
4-CF_3	5-CF_3	CO_2Me	Me	O
4-Cl	5-CF_3	CO_2Me	Me	O
4-Br	5-CF_3	CO_2Me	Me	O
4-OCF_3	5-CF_3	CO_2Me	Me	O
4-OCF_2H	5-CF_3	CO_2Me	Me	O
4-CF_3	5-Br	CO_2Me	Me	O
4-Cl	5-Br	CO_2Me	Me	O
4-Br	5-Br	CO_2Me	Me	O
4-OCF_3	5-Br	CO_2Me	Me	O
4-OCF_2H	5-Br	CO_2Me	Me	O
3,4-CF_2CF_2O	5-Br	CO_2Me	Me	O
3,4-$CH_2C(Me)_2O$	5-Br	CO_2Me	Me	O
4-CF_3	5-OCF_2H	CO_2Me	Me	O
4-Cl	5-OCF_2H	CO_2Me	Me	O
4-Br	5-OCF_2H	CO_2Me	Me	O
4-OCF_3	5-OCF_2H	CO_2Me	Me	O
4-OCF_2H	5-OCF_2H	CO_2Me	Me	O
4-CF_3	5-Cl	CO_2Me	Et	O
4-Cl	5-Cl	CO_2Me	Et	O
4-Br	5-Cl	CO_2Me	Et	O
4-CF_3	5-Cl	CO_2Me	CH_2Ph	O
4-Cl	5-Cl	CO_2Me	CH_2Ph	O
4-Br	5-Cl	CO_2Me	CH_2Ph	O
4-CF_3	5-Cl	CO_2Me	allyl	O
4-Cl	5-Cl	CO_2Me	allyl	O
4-Br	5-Cl	CO_2Me	allyl	O
4-CF_3	5-F	CO_2Et	Me	O
4-Cl	5-F	CO_2Et	Me	O
4-Br	5-F	CO_2Et	Me	O
4-CF_3	5-F	$CO_2CH_2CF_3$	Me	O
4-Cl	5-F	$CO_2CH_2CF_3$	Me	O
4-Br	5-F	$CO_2CH_2CF_3$	Me	O
4-CF_3	5-F	CO_2Ph	Me	O
4-Cl	5-F	CO_2Ph	Me	O
4-Br	5-F	CO_2Ph	Me	O
4-CF_3	5-Cl	CO_2H	H	O
4-CF_3	5-Cl	CONHMe	H	O
4-CF_3	5-Cl	CONMe	H	O
4-CF_3	5-Cl	CONHPh	H	O
4-CF_3	5-Cl	$CSNMe_2$	H	O
4-CF_3	5-Cl	propargyl	Me	O
4-CF_3	5-Cl	CH_2CH_2CN	Me	O
4-CF_3	5-Cl	CH_2CO_2Me	Me	O
4-CF_3	5-Cl	CH_2OMe	Me	O
4-CF_3	5-Cl	OMe	H	O
4-CF_3	5-Cl	SMe	H	O
4-CF_3	5-Cl	SO_2Me	H	O
4-CF_3	5-Cl	C(O)Me	Me	O
4-CF_3	5-Cl	C(O)Et	Me	O
4-CF_3	5-Cl	C(O)Me	H	O
4-CF_3	5-Cl	C(O)Et	H	O
4-CF_3	5-Cl	CN	Me	O
4-CF_3	5-Cl	CN	Et	O
4-CF_3	5-Cl	CN	CH_2Ph	O
4-CF_3	5-Cl	CN	H	O
4-CF_3	H	H	H	S
4-Cl	H	H	H	S
4-Br	H	H	H	S
4-OCF_2H	H	H	H	S
4-CF_3	4-F	H	H	S
4-Cl	4-F	H	H	S
4-Br	4-F	H	H	S
4-OCF_2H	4-F	H	H	S
4-CF_3	4-Cl	H	H	S

TABLE 12-continued



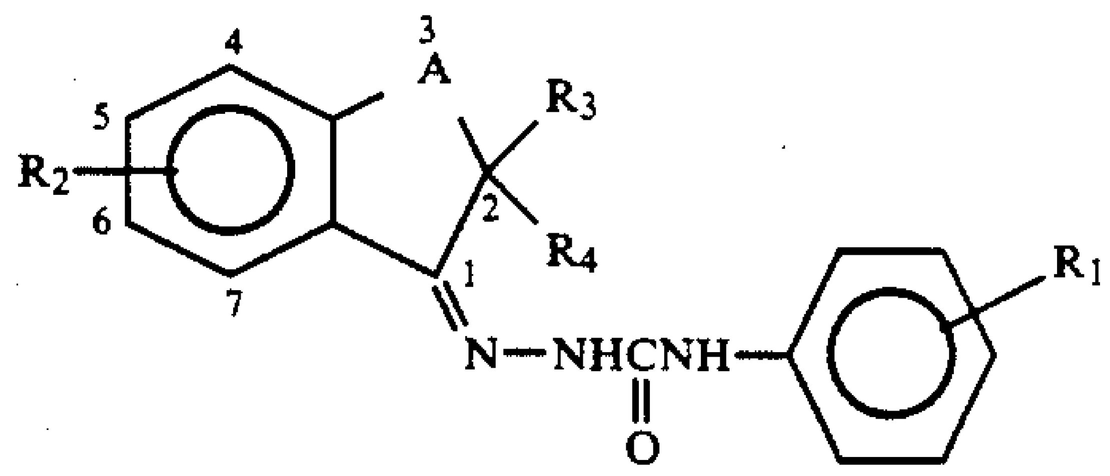
R1	R2	R3	R4	A
4-Cl	4-Cl	H	H	S
4-Br	4-Cl	H	H	S
4-OCF_2H	4-Cl	H	H	S
4-CF_3	5-F	H	H	S
4-Cl	5-F	H	H	S
4-Br	5-F	H	H	S
4-OCF_2H	5-F	H	H	S
4-CF_3	4-F	Me	H	S
4-Cl	4-F	Me	H	S
4-Br	4-F	Me	H	S
4-OCF_2H	4-F	Me	H	S
4-CF_3	5-Cl	Me	H	S
4-Cl	5-Cl	Me	H	S
4-Br	5-Cl	Me	H	S
4-OCF_2H	5-Cl	Me	H	S
4-CF_3	5-OCF_2H	Me	H	S
4-Cl	5-OCF_2H	Me	H	S
4-Br	5-OCF_2H	Me	H	S
4-OCF_2H	5-OCF_2H	Me	H	S
4-CF_3	5-F	Me	H	S
4-Cl	5-F	Me	H	S
4-Br	5-F	Me	H	S
4-CF_3	5-Cl	Et	H	S
4-Cl	5-Cl	Et	H	S
4-Br	5-Cl	Et	H	S
4-CF_3	5-OCF_2H	Et	H	S
4-Cl	5-OCF_2H	Et	H	S
4-Br	5-OCF_2H	Et	H	S
4-CF_3	5-F	n-Bu	H	S
4-Cl	5-F	n-Bu	H	S
4-Br	5-F	n-Bu	H	S
4-CF_3	4-F	n-Bu	H	S
4-Cl	4-F	n-Bu	H	S
4-Br	4-F	n-Bu	H	S
4-CF_3	5-Cl	allyl	H	S
4-Cl	5-Cl	allyl	H	S
4-Br	5-Cl	allyl	H	S
4-CF_3	5-Cl	Me	Me	S
4-Cl	5-Cl	Me	Me	S
4-Br	5-Cl	Me	Me	S
4-CF_3	5-F	Me	Me	S
4-Cl	5-F	Me	Me	S
4-Br	5-F	Me	Me	S
4-CF_3	5-OCF_2H	Me	Me	S
4-Cl	5-OCF_2H	Me	Me	S
4-Br	5-OCF_2H	Me	Me	S
4-CF_3	5-OCF_3	Me	Me	S
4-Cl	5-OCF_3	Me	Me	S
4-Br	5-OCF_3	Me	Me	S
4-CF_3	4-F	Me	Me	S
4-Cl	4-F	Me	Me	S
4-Br	4-F	Me	Me	S
4-CF_3	5-Br	Me	Me	S
4-Cl	5-Br	Me	Me	S
4-Br	5-Br	Me	Me	S
4-CF_3	5-Cl	CH_2Ph	H	S
4-Cl	5-Cl	CH_2Ph	H	S
4-Br	5-Cl	CH_2Ph	H	S
4-OCF_3	5-Cl	CH_2Ph	H	S
4-OCF_2H	5-Cl	CH_2Ph	H	S
4-CF_3	5-F	CH_2Ph-4-F	H	S
4-Cl	5-F	CH_2Ph-4-F	H	S
4-Br	5-F	CH_2Ph-4-F	H	S
4-OCF_2H	5-F	CH_2Ph-4-F	H	S
4-OCF_3	5-F	CH_2Ph-4-F	H	S
4-CF_3	5-OCF_2H	CH_2Ph-4-F	H	S
4-Cl	5-OCF_2H	CH_2Ph-4-F	H	S
4-Br	5-OCF_2H	CH_2Ph-4-F	H	S
4-OCF_3	5-OCF_2H	CH_2Ph-4-F	H	S
4-OCF_2H	5-OCF_2H	CH_2Ph-4-F	H	S
4-CF_3	5-Cl	CH_2Ph-4-Cl	H	S

TABLE 12-continued



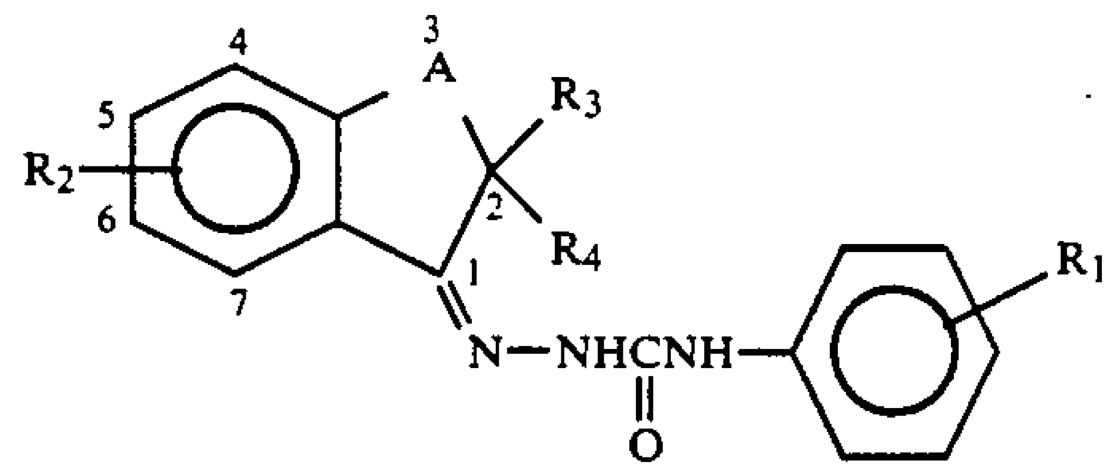
R_1	R_2	R_3	R_4	A
4-Cl	5-Cl	CH_2Ph-4-Cl	H	S
4-Br	5-Cl	CH_2Ph-4-Cl	H	S
4-OCF_3	5-Cl	CH_2Ph-4-Cl	H	S
4-OCF_2H	5-Cl	CH_2Ph-4-Cl	H	S
4-CF_3	H	CO_2Me	H	S
4-Cl	H	CO_2Me	H	S
4-Br	H	CO_2Me	H	S
4-OCF_2H	H	CO_2Me	H	S
4-F	H	CO_2Me	H	S
4-CF_3	5-Cl	CO_2Me	H	S
4-Cl	5-Cl	CO_2Me	H	S
4-Br	5-Cl	CO_2Me	H	S
4-OCF_2H	5-Cl	CO_2Me	H	S
4-OCF_3	5-Cl	CO_2Me	H	S
4-NO_2	5-Cl	CO_2Me	H	S
4-CF_3	5-F	CO_2Me	H	S
4-Cl	5-F	CO_2Me	H	S
4-Br	5-F	CO_2Me	H	S
4-OCF_2H	5-F	CO_2Me	H	S
4-OCF_3	5-F	CO_2Me	H	S
4-CN	5-F	CO_2Me	H	S
4-CF_3	4-F	CO_2Me	H	S
4-Cl	4-F	CO_2Me	H	S
4-Br	4-F	CO_2Me	H	S
4-CF_3	4-Cl	CO_2Me	H	S
4-Cl	4-Cl	CO_2Me	H	S
4-Br	4-Cl	CO_2Me	H	S
4-CF_3	H	CO_2Me	Me	S
4-Cl	H	CO_2Me	Me	S
4-Br	H	CO_2Me	Me	S
4-OCF_2H	H	CO_2Me	Me	S
4-OCF_3	H	CO_2Me	Me	S
3,4-CF_2CF_2O	H	CO_2Me	Me	S
3,4-$CH_2C(Me)_2O$	H	CO_2Me	Me	S
4-CF_3	5-Cl	CO_2Me	Me	S
4-Cl	5-Cl	CO_2Me	Me	S
4-Br	5-Cl	CO_2Me	Me	S
4-OCF_2H	5-Cl	CO_2Me	Me	S
4-OCF_3	5-Cl	CO_2Me	Me	S
3,4-CF_2CF_2O	5-Cl	CO_2Me	Me	S
3,4-$CF_2C(Me)_2O$	5-Cl	CO_2Me	Me	S
4-CF_3	5-F	CO_2Me	Me	S
4-Cl	5-F	CO_2Me	Me	S
4-Br	5-F	CO_2Me	Me	S
4-OCF_2H	5-F	CO_2Me	Me	S
4-OCF_3	5-F	CO_2Me	Me	S
3,4-CF_2CF_2O	5-F	CO_2Me	Me	S
3,4-$CH_2C(Me)_2O$	5-F	CO_2Me	Me	S
4-CF_3	4-F	CO_2Me	Me	S
4-Cl	4-F	CO_2Me	Me	S
4-Br	4-F	CO_2Me	Me	S
4-OCF_3	4-F	CO_2Me	Me	S
4-OCF_2H	4-F	CO_2Me	Me	S
3,4-CF_2CF_2O	4-F	CO_2Me	Me	S
3,4-$CH_2C(Me)_2O$	4-F	CO_2Me	Me	S
4-CF_3	5-OCF_2H	CO_2Me	Me	S
4-Cl	5-OCF_2H	CO_2Me	Me	S
4-Br	5-OCF_2H	CO_2Me	Me	S
4-OCF_3	5-OCF_2H	CO_2Me	Me	S
4-OCF_2H	5-OCF_2H	CO_2Me	Me	S
3,4-CF_2CF_2O	5-OCF_2H	CO_2Me	Me	S
3,4-$CH_2C(Me)_2O$	5-OCF_2H	CO_2Me	Me	S
4-OCF_2H	6-F	CO_2Me	Me	S
4-OCF_3	6-F	CO_2Me	Me	S
4-CF_3	5-Cl	CO_2Me	Et	S
4-Cl	5-Cl	CO_2Me	Et	S
4-Br	5-Cl	CO_2Me	Et	S
4-CF_3	5-Cl	Co_2Me	CH_2Ph	S
4-Cl	5-Cl	CO_2Me	CH_2Ph	S
4-Br	5-Cl	COzMe	CH_2Ph	S
4-CF_3	5-Cl	CO_2Me	allyl	S

TABLE 12-continued



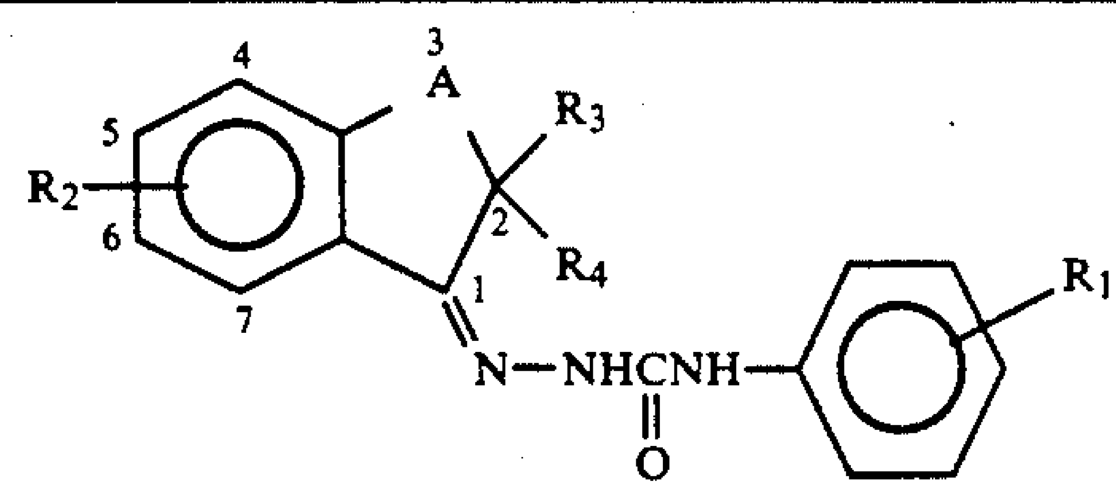
R_1	R_2	R_3	R_4	A
4-Cl	5-Cl	COzMe	allyl	S
4-Br	5-Cl	CO_2Me	allyl	S
4-CF_3	5-F	CO_2Et	Me	S
4-Cl	5-F	CO_2Et	Me	S
4-Br	5-F	CO_2Et	Me	S
4-CF_3	5-F	$CO_2CH_2CF_3$	Me	S
4-Cl	5-F	$CO_2CH_2CF_3$	Me	S
4-Br	5-F	$CO_2CH_2CF_3$	Me	S
4-CF_3	5-F	CO_2Ph	Me	S
4-Cl	5-F	CO_2Ph	Me	S
4-Br	5-F	CO_2Ph	Me	S
4-CF_3	5-Cl	CO_2H	H	S
4-CF_3	5-Cl	CONHMe	H	S
4-CF_3	5-Cl	CONMe	H	S
4-CF_3	5-Cl	CONHPh	H	S
4-CF_3	5-Cl	$CSNMe_2$	H	S
4-CF_3	5-Cl	propargyl	Me	S
4-CF_3	5-Cl	CH_2CH_2CN	Me	S
4-CF_3	5-Cl	CH_2CO_2Me	Me	S
4-CF_3	5-Cl	CH_2OMe	Me	S
4-CF_3	5-Cl	OMe	H	S
4-CF_3	5-Cl	SMe	H	S
4-CF_3	5-Cl	SO_2Me	H	S
4-CF_3	5-Cl	C(O)Me	Me	S
4-CF_3	5-Cl	C(O)Et	Me	S
4-CF_3	5-Cl	C(O)Me	H	S
4-CF_3	5-Cl	C(O)Et	H	S
4-CF_3	5-Cl	CN	Me	S
4-CF_3	5-Cl	CN	Et	S
4-CF_3	5-Cl	CN	CH_2Ph	S
4-CF_3	5-Cl	CN	H	S
4-CF_3	4-F	allyl	H	OCH_2
4-Cl	4-F	allyl	H	OCH_2
4-Br	4-F	allyl	H	OCH_2
4-OCF_2H	4-F	allyl	H	OCH_2
4-OCF_3	4-F	allyl	H	OCH_2
4-CF_3	4-Cl	allyl	H	OCH_2
4-Cl	4-Cl	allyl	H	OCH_2
4-Br	4-Cl	allyl	H	OCH_2
4-OCF_2H	4-Cl	allyl	H	OCH_2
4-OCF_3	4-Cl	allyl	H	OCH_2
4-CF_3	5-F	propargyl	H	OCH_2
4-Cl	5-F	propargyl	H	OCH_2
4-Br	5-F	propargyl	H	OCH_2
4-OCF_2H	5-F	propargyl	H	OCH_2
4-OCF_3	5-F	propargyl	H	OCH_2
4-CF_3	5-Cl	Me	H	OCH_2
4-Cl	5-Cl	Me	H	OCH_2
4-Br	5-Cl	Me	H	OCH_2
4-OCF_2H	5-Cl	Me	H	OCH_2
4-OCF_3	5-Cl	Me	H	OCH_2
4-CF_3	5-CF_3	Me	H	OCH_2
4,Cl	5-CF_3	Me	H	OCH_2
4-Br	5-CF_3	Me	H	OCH_2
4-OCF_2H	5-CF_3	Me	H	OCH_2
4-OCF_3	5-CF_3	Me	H	OCH_2
4-CF_3	5-OCF_2H	Me	H	OCH_2
4-Cl	5-OCF_2H	Me	H	OCH_2
4-Br	5-OCF_2H	Me	H	OCH_2
4-OCF_2H	5-OCF_2H	Me	H	OCH_2
4-OCF_3	5-OCF_2H	Me	H	OCH_2
4-CF_3	4-F	CH_2Ph	H	OCH_2
4-Cl	4-F	CH_2Ph	H	OCH_2
4-Br	4-F	CH_2Ph	H	OCH_2
4-OCF_2H	4-F	CH_2Ph	H	OCH_2
4-OCF_3	4-F	CH_2Ph	H	OCH_2
4-CF_3	4-Cl	CH_2Ph	H	OCH_2
4-Cl	4-Cl	CH_2Ph	H	OCH_2
4-Br	4-Cl	CH_2Ph	H	OCH_2
4-OCF_2H	4-Cl	CH_2Ph	H	OCH_2
4-OCF_3	4-Cl	CH_2Ph	H	OCH_2

TABLE 12-continued



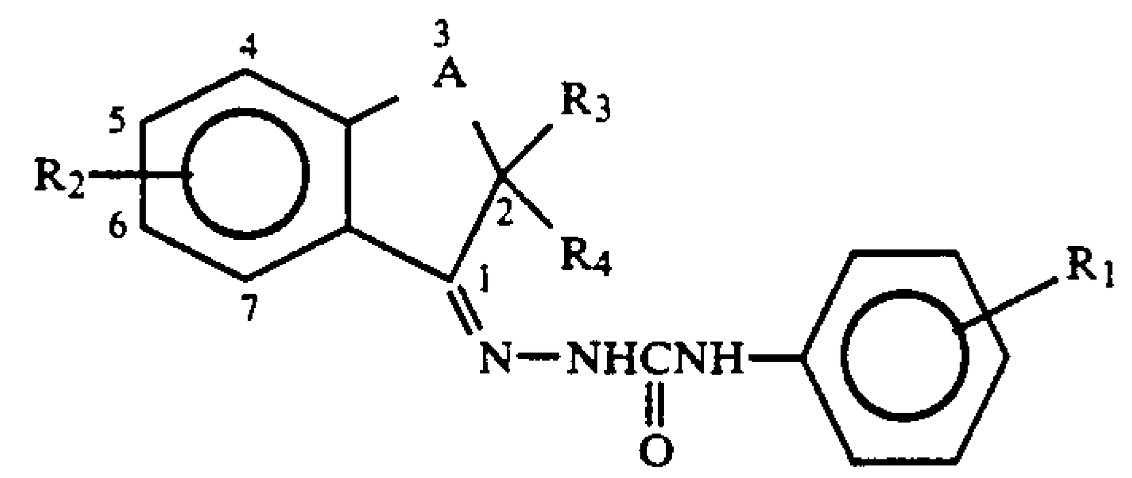
R_1	R_2	R_3	R_4	A
4-CF_3	5-F	CH_2Ph	H	OCH_2
4-Cl	5-F	CH_2Ph	H	OCH_2
4-Br	5-F	CH_2Ph	H	OCH_2
4-OCF_2H	5-F	CH_2Ph	H	OCH_2
4-OCF_3	5-F	CH_2Ph	H	OCH_2
4-CF_3	5-Cl	CH_2Ph-4-Cl	H	OCH_2
4-Cl	5-Cl	CH_2Ph-4-Cl	H	OCH_2
4-Br	5-Cl	CH_2Ph-4-Cl	H	OCH_2
4-OCF_2H	5-Cl	CH_2Ph-4-Cl	H	OCH_2
4-OCF_3	5-Cl	CH_2Ph-4-Cl	H	OCH_2
4-CF_3	5-CF_3	CH_2Ph-4-Cl	H	OCH_2
4-Cl	5-CF_3	CH_2Ph-4-Cl	H	OCH_2
4-Br	5-CF_3	CH_2Ph-4-Cl	H	OCH_2
4-OCF_2H	5-CF_3	CH_2Ph-4-Cl	H	OCH_2
4-OCF_3	5-CF_3	CH_2Ph-4-Cl	H	OCH_2
4-CF_3	5-OCF_2H	CH_2Ph-4-Cl	H	OCH_2
4-Cl	5-OCF_2H	CH_2Ph-4-Cl	H	OCH_2
4-Br	5-OCF_2H	CH_2Ph-4-Cl	H	OCH_2
4-OCF_2H	5-OCF_2H	CH_2Ph-4-Cl	H	OCH_2
4-OCF_3	5-OCF_2H	CH_2Ph-4-Cl	H	OCH_2
4-CF_3	4-F	CO_2Me	H	OCH_2
4-Cl	4-F	CO_2Me	H	OCH_2
4-Br	4-F	CO_2Me	H	OCH_2
4-OCF_2H	4-F	CO_2Me	H	OCH_2
4-OCF_3	4-F	CO_2Me	H	OCH_2
4-CF_3	4-Cl	CO_2Me	H	OCH_2
4-Cl	4-Cl	CO_2Me	H	OCH_2
4-Br	4-Cl	CO_2Me	H	OCH_2
4-OCF_2H	4-Cl	COzMe	H	OCH_2
4-OCF_3	4-Cl	CO_2Me	H	OCH_2
4-CF_3	5-F	CO_2Me	H	OCH_2
4-Cl	5-F	CO_2Me	H	OCH_2
4-Br	5-F	CO_2Me	H	OCH_2
4-OCF_2H	5-F	CO_2Me	H	OCH
4-OCF_3	5-F	CO_2Me	H	OCH_2
4-CF_3	5-Cl	CO_2Me	H	OCH_2
4-Cl	5-Cl	CO_2Me	H	OCH_2
4-Br	5-Cl	CO_2Me	H	OCH_2
4-OCF_2H	5-Cl	CO_2Me	H	OCH_2
4-OCF_3	5-Cl	CO_2Me	H	OCH_2
4-CF_3	5-CF_3	CO_2Me	H	OCH_2
4-Cl	5-CF_3	CO_2Me	H	OCH_2
4-Br	5-CF_3	CO_2Me	H	OCH_2
4-OCF_2H	5-CF_3	CO_2Me	H	OCH_2
4-OCF_3	5-CF_3	CO_2Me	H	OCH_2
4-CF_3	5-OCF_2H	CO_2Me	H	OCH_2
4-Cl	5-OCF_2H	CO_2Me	H	OCH_2
4-Br	5-OCF_2H	CO_2Me	H	OCH_2
4-OCF_2H	5-OCF_2H	CO_2Me	H	OCH_2
4-OCF_3	5-OCF_2H	CO_2Me	H	OCH_2
4-CF_3	4-F	CO_2Me	Me	OCH_2
4-Cl	4-F	CO_2Me	Me	OCH_2
4-Br	4-F	CO_2Me	Me	OCH_2
4-OCF_2H	4-F	CO_2Me	Me	OCH_2
4-OCF_3	4-F	CO_2Me	Me	OCH_2
4-CF_3	4-Cl	CO_2Me	Me	OCH_2
4-Cl	4-Cl	CO_2Me	Me	OCH_2
4-Br	4-Cl	CO_2Me	Me	OCH_2
4-OCF_2H	4-Cl	CO_2Me	Me	OCH_2
4-OCF_3	4-Cl	CO_2Me	Me	OCH_2
4-CF_3	5-F	CO_2Me	Me	OCH_2
4-Cl	5-F	CO_2Me	Me	OCH_2
4-Br	5-F	CO_2Me	Me	OCH_2
4-OCF_2H	5-F	CO_2Me	Me	OCH_2
4-OCF_3	5-F	CO_2Me	Me	OCH_2
4-CF_3	5-Cl	CO_2Me	Me	OCH_2
4-Cl	5-Cl	CO_2Me	Me	OCH_2
4-Br	5-Cl	CO_2Me	Me	OCH_2
4-OCF_2H	5-Cl	CO_2Me	Me	OCH_2
4-OCF_3	5-Cl	CO_2Me	Me	OCH_2
4-OCF_3	5-CF_3	CO_2Me	Me	OCH_2

TABLE 12-continued



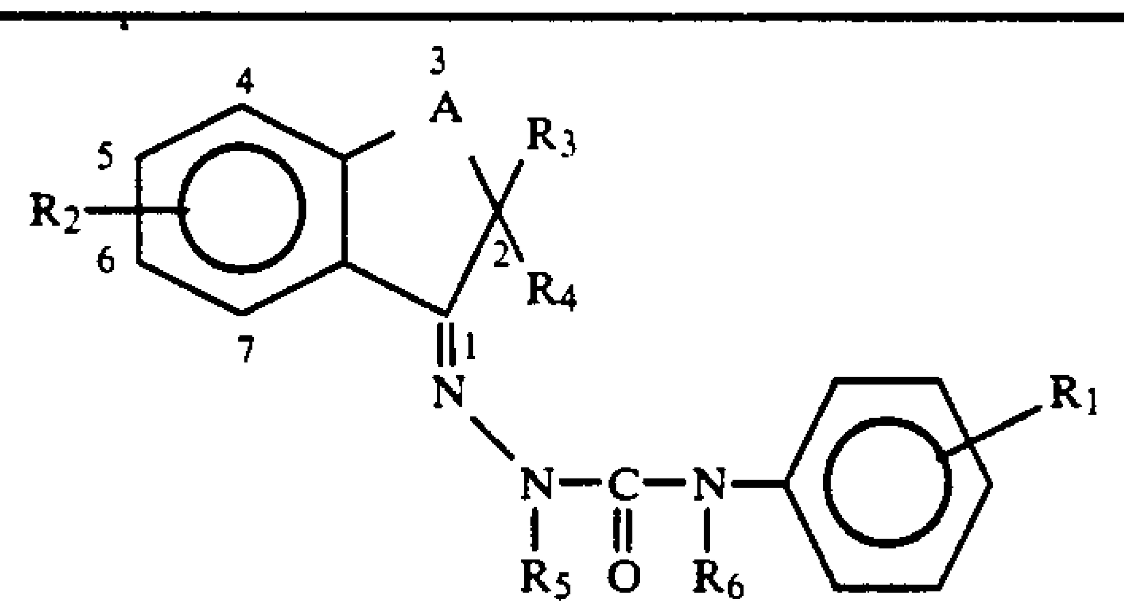
R_1	R_2	R_3	R_4	A
4-Cl	5-CF_3	CO_2Me	Me	OCH_2
4-Br	5-CF_3	CO_2Me	Me	OCH_2
4-OCF_2H	5-CF_3	CO_2Me	Me	OCH_2
4-OCF_3	5-CF_3	CO_2Me	Me	OCH_2
4-CF_3	5-OCF_2H	CO_2Me	Me	OCH_2
4-Cl	5-OCF_2H	CO_2Me	Me	OCH_2
4-Br	5-OCF_2H	CO_2*ue	Me	OCH_2
4-OCF_2H	5-OCF_2H	CO_2Me	Me	OCH_2
4-OCF_3	5-OCF_2H	CO_2Me	Me	OCH_2
4-CF_3	4-F	Me	H	SCH_2
4-Cl	4-F	Me	H	SCH_2
4-Br	4-F	Me	H	SCH_2
4-OCF_2H	4-F	Me	H	SCH_2
4-OCF_3	4-F	Me	H	SCH_2
4-CF_3	4-Cl	Me	H	SCH_2
4-Cl	4-Cl	Me	H	SCH_2
4-Br	4-Cl	Me	H	SCH_2
4-OCF_2H	4-Cl	Me	H	SCH_2
4-OCF_3	4-Cl	Me	H	SCH_2
4-CF_3	5-F	allyl	H	SCH_2
4-Cl	5-F	allyl	H	SCH_2
4-Br	5-F	allyl	H	SCH_2
4-OCF_2H	5-F	allyl	H	SCH_2
4-OCF_3	5-F	allyl	H	SCH_2
4-CF_3	5-Cl	CH_2Ph	H	SCH_2
4-Cl	5-Cl	CH_2Ph	H	SCH_2
4-Br	5-Cl	CH_2Ph	H	SCH_2
4-OCF_2H	5-Cl	CH_2Ph	H	SCH_2
4-OCF_3	5-Cl	CH_2Ph	H	SCH_2
4-CF_3	5-CF_3	CH_2Ph-4-Cl	H	SCH_2
4-Cl	5-CF_3	CH_2Ph-4-Cl	H	SCH_2
4-Br	5-CF_3	CH_2Ph-4-Cl	H	SCH_2
4-OCF_2H	5-CF_3	CH_2Ph-4-Cl	H	SCH_2
4-OCF_3	5-CF_3	CH_2Ph-4-Cl	H	SCH_2
4-CF_3	5-OCF_2H	CH_2Ph-4-Cl	H	SCH_2
4-Cl	5-OCF_2H	CH_2Ph-4-Cl	H	SCH_2
4-Br	5-OCF_2H	CH_2Ph-4-Cl	H	SCH_2
4-OCF_2H	5-OCF_2H	CH_2Ph-4-Cl	H	SCH_2
4-OCF_3	5-OCF_2H	CH_2Ph-4-Cl	H	SCH_2
4-CF_3	4-F	CO_2Me	H	SCH_2
4-Cl	4-F	CO_2Me	H	SCH_2
4-Br	4-F	CO_2Me	H	SCH_2
4-OCF_2H	4-F	CO_2Me	H	SCH_2
4-OCF_3	4-F	CO_2Me	H	SCH_2
4-CF_3	4-Cl	CO_2Me	H	SCH_2
4-Cl	4-Cl	CO_2Me	H	SCH_2
4-Br	4-Cl	CO_2Me	H	SCH_2
4-OCF_2H	4-Cl	CO_2Me	H	SCH_2
4-OCF_3	4-Cl	CO_2Me	H	SCH_2
4-CF_3	5-F	CO_2Me	H	SCH_2
4-Cl	5-F	CO_2Me	H	SCH_2
4-Br	5-F	CO_2Me	H	SCH_2
4-OCF_2H	5-F	CO_2Me	H	SCH_2
4-OCF_3	5-F	CO_2Me	H	SCH_2
4-CF_3	5-Cl	CO_2Me	H	SCH_2
4-Cl	5-Cl	CO_2Me	H	SCH_2
4-Br	5-Cl	CO_2Me	H	SCH_2
4-OCF_2H	5-Cl	CO_2Me	H	SCH_2
4-OCF_3	5-Cl	CO_2Me	H	SCH_2
4-CF_3	5-CF_3	CO_2Me	H	SCH_2
4-Cl	5-CF_3	CO_2Me	H	SCH_2
4-Br	5-CF_3	CO_2Me	H	SCH_2
4-OCF_2H	5-CF_3	CO_2Me	H	SCH_2
4-OCF_3	5-CF_3	CO_2Me	H	SCH_2
4-CF_3	5-OCF_2H	CO_2Me	H	SCH_2
4-Cl	5-OCF_2H	CO_2Me	H	SCH_2
4-Br	5-OCF_2H	CO_2Me	H	SCH_2
4-OCF_2H	5-OCF_2H	CO_2Me	H	SCH_2
4-OCF_3	5-OCF_2H	CO_2Me	H	SCH_2
4-CF_3	4-F	CO_2Me	Me	SCH_2
4-Cl	4-F	CO_2Me	Me	SCH_2

TABLE 12-continued



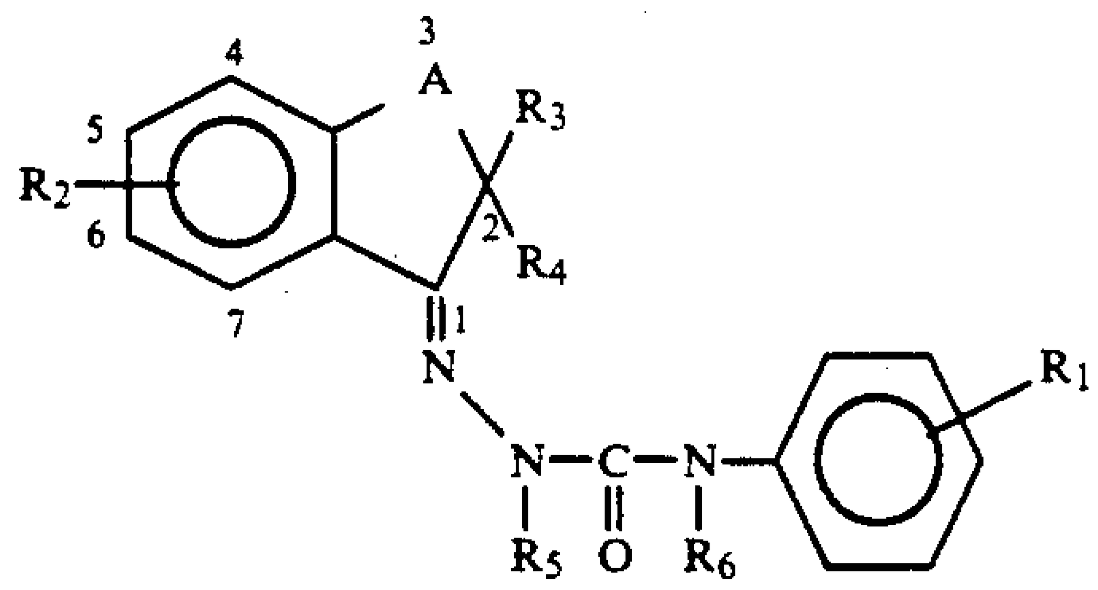
R1	R2	R3	R4	A
4-Br	4-F	CO_2Me	Me	SCH_2
4-OCF_2H	4-F	CO_2Me	Me	SCH_2
4-OCF_3	4-F	CO_2Me	Me	SCH_2
4-CF_3	4-Cl	CO_2Me	Me	SCH_2
4-Cl	4-Cl	CO_2Me	Me	SCH_2
4-Br	4-Cl	CO_2Me	Me	SCH_2
4-OCF_2H	4-Cl	CO_2Me	Me	SCH_2
4-OCF_3	4-Cl	CO_2Me	Me	SCH_2
4-CF_3	5-F	CO_2Me	Me	SCH_2
4-Cl	5-F	CO_2Me	Me	SCH_2
4-Br	5-F	CO_2Me	Me	SCH_2
4-OCF_2H	5-F	CO_2Me	Me	SCH_2
4-OCF_3	5-F	CO_2Me	Me	SCH_2
4-CF_3	5-Cl	CO_2Me	Me	SCH_2
4-Cl	5-Cl	CO_2Me	Me	SCH_2
4-Br	5-Cl	CO_2Me	Me	SCH_2
4-OCF_2H	5-Cl	CO_2Me	Me	SCH_2
4-OCF_3	5-Cl	CO_2Me	Me	SCH_2
4-CF_3	5-CF_3	CO_2Me	Me	SCH_2
4-Cl	5-CF_3	CO_2Me	Me	SCH_2
4-Br	5-CF_3	CO_2Me	Me	SCH_2
4-OCF_2H	5-CF_3	CO_2Me	Me	SCH_2
4-OCF_3	5-CF_3	CO_2Me	Me	SCH_2
4-CF_3	5-OCF_2H	CO_2Me	Me	SCH_2
4-Cl	5-OCF_2H	CO_2Me	Me	SCH_2
4-Br	5-OCF_2H	CO_2Me	Me	SCH_2
4-OCF_2H	5-OCF_2H	CO_2Me	Me	SCH_2
4-OCF_3	5-OCF_2H	CO_2Me	Me	SCH_2

TABLE 13



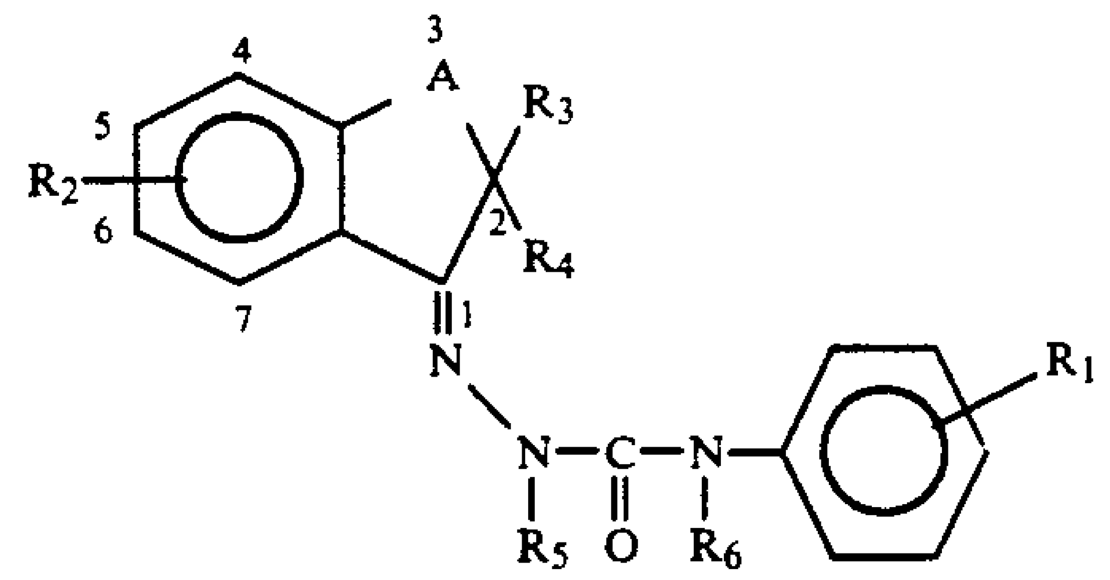
R1	R2	R3	R4	R5	R6	A
4CF_3	5-Cl	Pt	H	Me	H	CH_2
4-Cl	5-Cl	Ph	H	Me	H	CH_2
4-Br	5-Cl	Ph	H	Me	H	CH_2
4-CF_3	5-Cl	Ph	H	C(O)Me	H	CH_2
4-Cl	5-Cl	Ph	H	C(O)Me	H	CH_2
4-Br	5-Cl	Ph	H	C(O)Me	H	CH_2
4-CF_3	5-Cl	Ph	H	CO_2Me	H	CH_2
4-Cl	5-Cl	Ph	H	CO_2Me	H	CH_2
4-Br	5-Cl	Ph	H	CO_2Me	H	CH_2
4-CF_3	5-Cl	Ph	H	Ph	H	CH_2
4-Cl	5-Cl	Ph	H	Ph	H	CH_2
4-Br	5-Cl	Ph	H	Ph	H	CH_2
4-CF_3	5-Cl	Ph	H	4-Cl-Ph	H	CH_2
4-Cl	5-Cl	Ph	H	4-Cl-Ph	H	CH_2
4-Br	5-Cl	Ph	H	4-Cl-Ph	H	CH_2
4-CF_3	5-Cl	Ph	H	4-F-Ph	H	CH_2
4-Cl	5-Cl	Ph	H	4-F-Ph	H	CH_2
4-Br	5-Cl	Ph	H	5-F-Ph	H	CH_2
4-CF_3	5-F	Ph	H	Me	H	CH_2
4-Cl	5-F	Ph	H	Me	H	CH_2
4-Br	5-F	Ph	H	Me	H	CH_2
4-CF_3	5-F	Ph	H	Ph	H	CH_2
4-Cl	5-F	Ph	H	Ph	H	CH_2
4-Br	5-F	Ph	H	Ph	H	CH_2
4-CF_3	5-F	Ph	H	SN(Me)CO_2n-Bu	H	CH_2

TABLE 13-continued



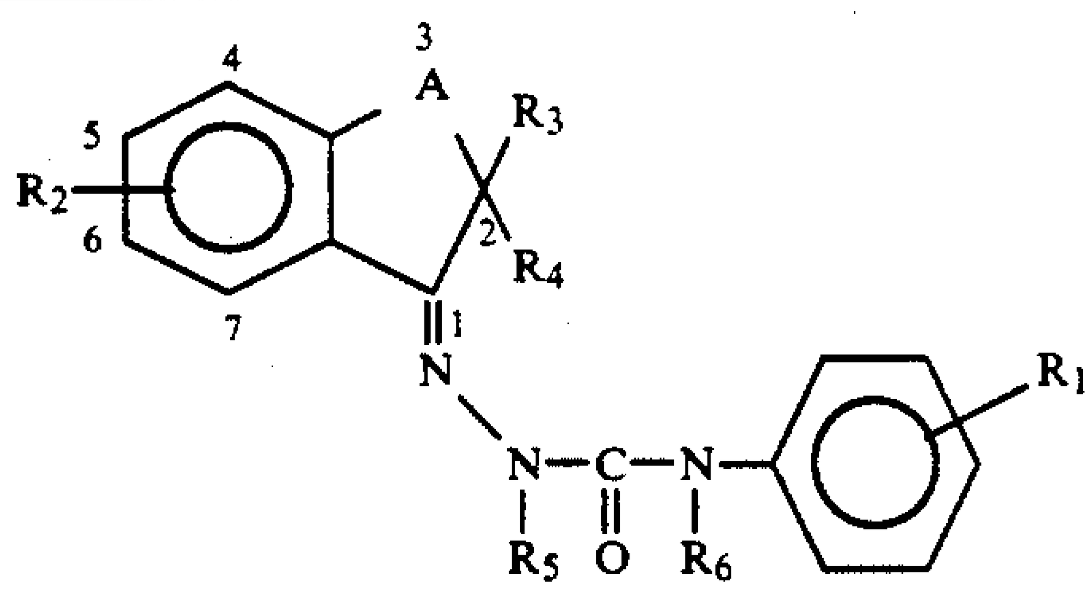
R_1	R_2	R_3	R_4	R_5	R_6	A
4-Cl	5-F	Ph	H	$SN(Me)CO_2$n-Bu	H	CH_2
4-Br	5-F	Ph	H	$SN(Me)CO_2$n-Bu	H	CH_2
4-CF_3	5-F	Ph	H	SN(i-Pr)CO_2Et	H	CH_2
4-Cl	5-F	Ph	H	SN(i-Pr)CO_2Et	H	CH_2
4-Br	5-F	Ph	H	SN(i-Pr)CO_2Et	H	CH_2
4-CF_3	5-F	Ph	H	SCO_2n-Hex	H	CH_2
4-Cl	5-F	Ph	H	SCO_2n-Hex	H	CH_2
4-Br	5-F	Ph	H	SCO_2n-Hex	H	CH_2
4-CF_3	5-F	Ph	H	SN(Me)SO_2Me	H	CH_2
4-Cl	5-F	Ph	H	SN(Me)SO_2Me	H	CH_2
4-Br	5-F	Ph	H	SN(Me)SO_2Me	H	CH_2
4-CF_3	5-Cl	4-Cl-Ph	H	Me	H	CH_2
4-Cl	5-Cl	4-Cl-Ph	H	Me	H	CH_2
4-Br	5-Cl	4-Cl-Ph	H	Me	H	CH_2
4-CF_3	5-Cl	4-Cl-Ph	H	4-F-Ph	H	CH_2
4-Cl	5-Cl	4-Cl-Ph	H	4-F-Ph	H	CH_2
4-Br	5-Cl	4-Cl-Ph	H	4-F-Ph	H	CH_2
4-CF_3	5-Cl	4-Cl-Ph	H	S-Ph	H	CH_2
4-Cl	5-Cl	4-Cl-Ph	H	S-Ph	H	CH_2
4-Br	5-Cl	4-Cl-Ph	H	S-Ph	H	CH_2
4-CF_3	5-Cl	4-Cl-Ph	H	CO_2Et	H	CH_2
4-Cl	5-Cl	4-Cl-Ph	H	CO_2Et	H	CH_2
4-Br	5-Cl	4-Cl-Ph	H	CO_2Et	H	CH_2
4-CF_3	5-Cl	4-Cl-Ph	H	SCO_2n-Bu	H	CH_2
4-Cl	5-Cl	4-Cl-Ph	H	SCO_2n-Bu	H	CH_2
4-Br	5-Cl	4-Cl-Ph	H	SCO_2n-Bu	H	CH_2
4-CF_3	5-Cl	4-Cl-Ph	H	SMe	H	CH_2
4-Cl	5-Cl	4-Cl-Ph	H	SMe	H	CH_2
4-Br	5-Cl	4-Cl-Ph	H	SMe	H	CH_2
4-CF_3	5-Cl	4-F-Ph	H	CO_2Me	H	CH_2
4-Cl	5-Cl	4-F-Ph	H	CO_2Me	H	CH_2
4-Br	5-Cl	4-F-Ph	H	CO_2Me	H	CH_2
4-CF_3	5-Cl	4-F-Ph	H	SN(Me)SO_2-4-Me-Ph	H	CH_2
4-Cl	5-Cl	4-F-Ph	H	SN(Me)SO_2-4-Me-Ph	H	CH_2
4-Br	5-Cl	4-F-Ph	H	SN(Me)SO_2-4-Me-Ph	H	CH_2
4-CF_3	5-Cl	4-F-Ph	H	SN(Me)P(O)$(OEt)_2$	H	CH_2
4-Cl	5-Cl	4-F-Ph	H	SN(Me)P(O)$(OEt)_2$	H	CH_2
4-Br	5-Cl	4-F-Ph	H	SN(Me)P(O)$(OEt)_2$	H	CH_2
4-CF_3	5-Cl	4-F-Ph	H	SN(Me)P(=O)(OEt)Et	H	CH_2
4-Cl	5-Cl	4-F-Ph	H	SN(Me)P(=O)(OEt)Et	H	CH_2
4-Br	5-Cl	4-F-Ph	H	SN(Me)P(=O)(OEt)Et	H	CH_2
4-CF_3	5-Cl	4-F-Ph	H	CO_2Et	H	CH_2
4-Cl	5-Cl	4-F-Ph	H	CO_2Et	H	CH_2
4-Br	5-Cl	4-F-Ph	H	CO_2Et	H	CH_2
4-CF_3	5-Cl	4-F-Ph	H	Ph	H	CH_2
4-Cl	5-Cl	4-F-Ph	H	Ph	H	CH_2
4-Br	5-Cl	4-F-Ph	H	Ph	H	CH_2
4-CF_3	5-Cl	Ph	H	H	Me	CH_2
4-Cl	5-Cl	Ph	H	H	Me	CH_2
4-Br	5-Cl	Ph	H	H	Me	CH_2
4-CF_3	5-Cl	Ph	H	H	C(O)Me	CH_2
4-Cl	5-Cl	Ph	H	H	C(O)Me	CH_2
4-Br	5-Cl	Ph	H	H	C(O)Me	CH_2
4-CF_3	5-Cl	Ph	H	H	CO_2Me	CH_2

TABLE 13-continued



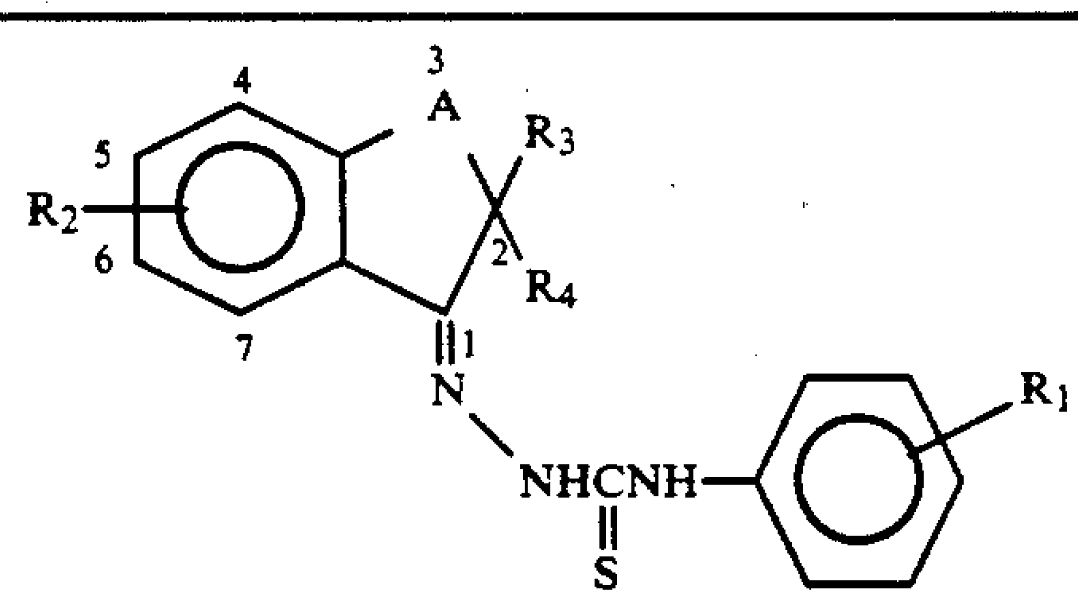
R_1	R_2	R_3	R_4	R_5	R_6	A
4-Cl	5-Cl	Ph	H	H	CO_2Me	CH_2
4-Br	5-Cl	Ph	H	H	CO_2Me	CH_2
4-CF_3	5-Cl	Ph	H	H	CO_2Et	CH_2
4-Cl	5-Cl	Ph	H	H	CO_2Et	CH_2
4-Br	5-Cl	Ph	H	H	CO_2Et	CH_2
4-CF_3	5-Cl	Ph	H	H	C(O)Ph	CH_2
4-Cl	5-Cl	Ph	H	H	C(O)Ph	CH_2
4-Br	5-Cl	Ph	H	H	C(O)Ph	CH_2
4-CF_3	5-Cl	Ph	H	H	C(O)nPr	CH_2
4-Cl	5-Cl	Ph	H	H	C(O)nPr	CH_2
4-Br	5-Cl	Ph	H	H	C(O)nPr	CH_2
4-CF3	5-F	Ph	H	H	CH_2Ph	CH_2
4-Cl	5-F	Ph	H	H	CH_2Ph	CH_2
4-Br	5-F	Ph	H	H	CH_2Ph	CH_2
4-CF_3	5-F	Ph	H	H	SN(Me)CO_2n-dec	CH_2
4-Cl	5-F	Ph	H	H	SN(Me)CO_2n-dec	CH_2
4-Br	5-F	Ph	H	H	SN(Me)CO_2n-dec	CH_2
4-CF_3	5-F	Ph	H	H	SN(i-Pr)CO_2Et	CH_2
4-Cl	5-F	Ph	H	H	SN(i-Pr)CO_2Et	CH_2
4-Br	5-F	Ph	H	H	SN(i-Pr)CO_2Et	CH_2
4-CF_3	5-F	Ph	H	H	SCO_2Et	CH_2
4-Cl	5-F	Ph	H	H	SCO_2Et	CH_2
4-Br	5-F	Ph	H	H	SCO_2Et	CH_2
4-CF_3	5-F	Ph	H	H	C(O)Me	CH_2
4-Cl	5-F	Ph	H	H	C(O)Me	CH_2
4-Br	5-F	Ph	H	H	C(O)Me	CH_2
4-CF_3	5-F	Ph	H	H	CO_2Me	CH_2
4-Cl	5-F	Ph	H	H	CO_2Me	CH_2
4-Br	5-F	Ph	H	H	CO_2Me	CH_2
4-CF_3	5-Cl	4-Cl-Ph	H	H	Me	CH_2
4-Cl	5-Cl	4-Cl-Ph	H	H	Me	CH_2
4-Br	5-Cl	4-Cl-Ph	H	H	Me	CH_2
4-CF_3	5-Cl	4-Cl-Ph	H	H	CO_2Me	CH_2
4-Cl	5-Cl	4-Cl-Ph	H	H	CO_2Me	CH_2
4-Br	5-Cl	4-Cl-Ph	H	H	CO_2Me	CH_2
4-CF_3	5-Cl	4-Cl-Ph	H	H	CO_2Et	CH_2
4-Cl	5-Cl	4-Cl-Ph	H	H	CO_2Et	CH_2
4-Br	5-Cl	4-Cl-Ph	H	H	CO_2Et	CH_2
4-CF_3	5-Cl	4-Cl-Ph	H	H	C(O)Me	CH_2
4-Cl	5-Cl	4-Cl-Ph	H	H	C(O)Me	CH_2
4-Br	5-Cl	4-Cl-Ph	H	H	C(O)Me	CH_2
4-CF_3	5-Cl	4-Cl-Ph	H	H	$SN(Et)_2$	CH_2
4-Cl	5-Cl	4-Cl-Ph	H	H	$SN(Et)_2$	CH_2
4-Br	5-Cl	4-Cl-Ph	H	H	$SN(Et)_2$	CH_2
4-CF_3	5-Cl	4-Cl-Ph	H	H	SO_2Ph	CH_2
4-Cl	5-Cl	4-Cl-Ph	H	H	SO_2Ph	CH_2
4-Br	5-Cl	4-Cl-Ph	H	H	SO_2Ph	CH_2
4-CF_3	5-Cl	4-F-Ph	H	H	Me	CH_2
4-Cl	5-Cl	4-F-Ph	H	H	Me	CH_2
4-Br	5-Cl	4-F-Ph	H	H	Me	CH_2
4-CF_3	5-Cl	4-F-Ph	H	H	C(O)Me	CH_2
4-Cl	5-Cl	4-F-Ph	H	H	C(O)Me	CH_2
4-Br	5-Cl	4-F-Ph	H	H	C(O)Me	CH_2
4-CF_3	5-Cl	4-F-Ph	H	H	CO_2Me	CH_2
4-Cl	5-Cl	4-F-Ph	H	H	CO_2Me	CH_2
4-Br	5-Cl	4-F-Ph	H	H	CO_2Me	CH_2
4-CF_3	5-Cl	4-F-Ph	H	H	n-Bu	CH_2
4-Cl	5-Cl	4-F-Ph	H	H	n-Bu	CH_2
4-Br	5-Cl	4-F-Ph	H	H	n-Bu	CH_2
4-CF_3	5-Cl	4-F-Ph	H	H	SN(Me)CO_2Et	CH_2
4-Cl	5-Cl	4-F-Ph	H	H	SN(Me)CO_2Et	CH_2
4-Br	5-Cl	4-F-Ph	H	H	SN(Me)CO_2Et	CH_2
4-CF_3	5-Cl	4-F-Ph	H	H	C(O)Ph	CH_2
4-Cl	5-Cl	4-F-Ph	H	H	C(O)Ph	CH_2
4-Br	5-Cl	4-F-Ph	H	H	C(O)Ph	CH_2
4-CF_3	5-Cl	4-Cl-Ph	Me	H	Me	CH_2
4-Cl	5-Cl	4-Cl-Ph	Me	H	Me	CH_2
4-Br	5-Cl	4-Cl-Ph	Me	H	Me	CH_2
4-CF_3	5-Cl	4-Cl-Ph	Me	Me	H	CH_2

TABLE 13-continued



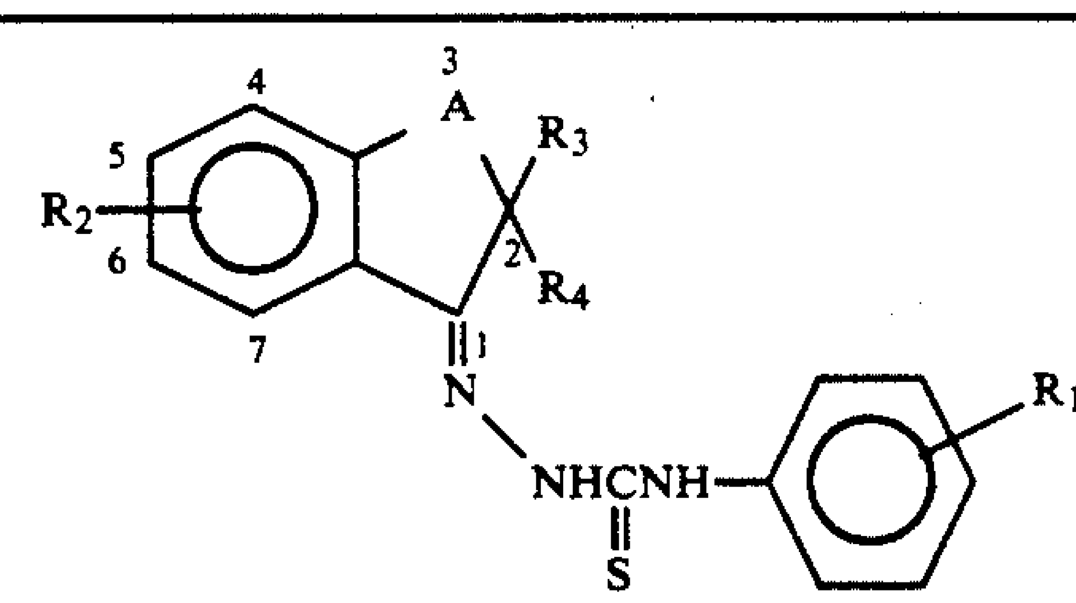
R_1	R_2	R_3	R_4	R_5	R_6	A
4-Cl	5-Cl	4-Cl-Ph	Me	Me	H	CH_2
4-Br	5-Cl	4-Cl-Ph	Me	Me	H	CH_2
4-CF_3	5-Cl	4-Cl-Ph	Me	Ph	H	CH_2
4-Cl	5-Cl	4-Cl-Ph	Me	Ph	H	CH_2
4-Br	5-Cl	4-Cl-Ph	Me	Ph	H	CH_2
4-CF_3	5-Cl	4-Cl-Ph	Me	H	CO_2Me	CH_2
4-Cl	5-Cl	4-Cl-Ph	Me	H	CO_2Me	CH_2
4-Br	5-Cl	4-Cl-Ph	Me	H	CO_2Me	CH_2
4-CF_3	5-Cl	4-Cl-Ph	Me	H	C(O)Me	CH_2
4-Cl	5-Cl	4-Cl-Ph	Me	H	C(O)Me	CH_2
4-Br	5-Cl	4-Cl-Ph	Me	H	C(O)Me	CH_2
4-CF_3	5-Cl	4-Cl-Ph	Me	H	SCO_2Me	CH_2
4-Cl	5-Cl	4-Cl-Ph	Me	H	SCO_2Me	CH_2
4-Br	5-Cl	4-Cl-Ph	Me	H	SCO_2Me	CH_2
4-CF_3	5-Cl	4-Cl-Ph	H	Me	Me	CH_2
4-Cl	5-Cl	4-Cl-Ph	H	Me	Me	CH_2
4-Br	5-Cl	4-Cl-Ph	H	Me	Me	CH_2
4-CF_3	5-Cl	4-Cl-Ph	H	Me	Me	CH_2
4-Cl	5-Cl	4-Cl-Ph	H	Me	Me	CH_2
4-Br	5-Cl	4-Cl-Ph	H	Me	Me	CH_2
4-CF_3	5-Cl	4-Cl-Ph	H	Ph	Me	CH_2
4-Cl	5-Cl	4-Cl-Ph	H	Ph	Me	CH_2
4-Br	5-Cl	4-Cl-Ph	H	Ph	Me	CH_2
4-CF_3	5-Cl	4-Cl-Ph	H	Ph	CO_2Me	CH_2
4-Cl	5-Cl	4-Cl-Ph	H	Ph	CO_2Me	CH_2
4-Br	5-Cl	4-Cl-Ph	H	Ph	CO_2Me	CH_2
4-CF_3	5-Cl	Ph	H	Me	Me	CH_2
4-Cl	5-Cl	Ph	H	Me	Me	CH_2
4-Br	5-Cl	Ph	H	Me	Me	CH_2
4-CF_3	5-Cl	Ph	H	CO_2Me	Me	CH_2
4-Cl	5-Cl	Ph	H	CO_2Me	Me	CH_2
4-Br	5-Cl	Ph	H	CO_2Me	Me	CH_2

TABLE 14



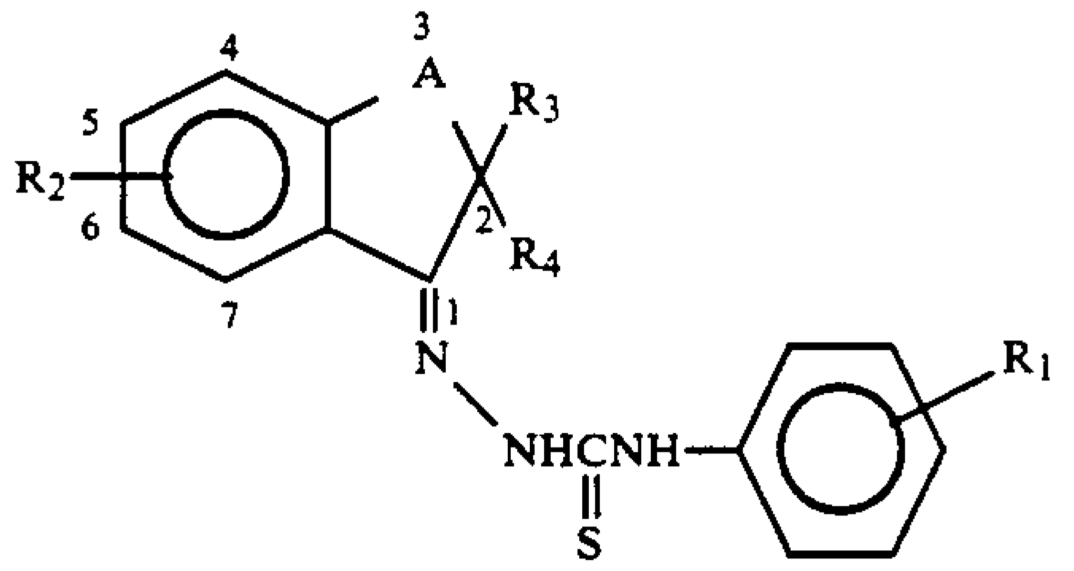
R_1	R_2	R_3	R_4	A
4-CF_3	5-Cl	Ph	H	CH_2
4-Cl	5-Cl	Ph	H	CH_2
4-Br	5-Cl	Ph	H	CH_2
4-OCF_2H	5-Cl	Ph	H	CH_2
4-CF_3	5-Cl	4-Cl-Ph	H	CH_2
4-Cl	5-Cl	4-Cl-Ph	H	CH_2
4-Br	5-Cl	4-Cl-Ph	H	CH_2
4-OCF_2H	5-Cl	4-Cl-Ph	H	CH_2
4-CF_3	5-Cl	4-F-Ph	H	CH_2
4-Cl	5-Cl	4-F-Ph	H	CH_2
4-Br	5-Cl	4-F-Ph	H	CH_2
4-OCF_2H	5-Cl	4-F-Ph	H	CH_2
4-CF_2	5-Cl	4-NO_2Ph	H	CH_2
4-Cl	5-Cl	4-NO_2Ph	H	CH_2
4-Br	5-Cl	4-NO_2Ph	H	CH_2
4-OCF_2H	5-Cl	4-NO_2Ph	H	CH_2
4-CF_3	5-F	Ph	H	CH_2
4-Cl	5-F	Ph	H	CH_2
4-Br	5-F	Ph	H	CH_2

TABLE 14-continued



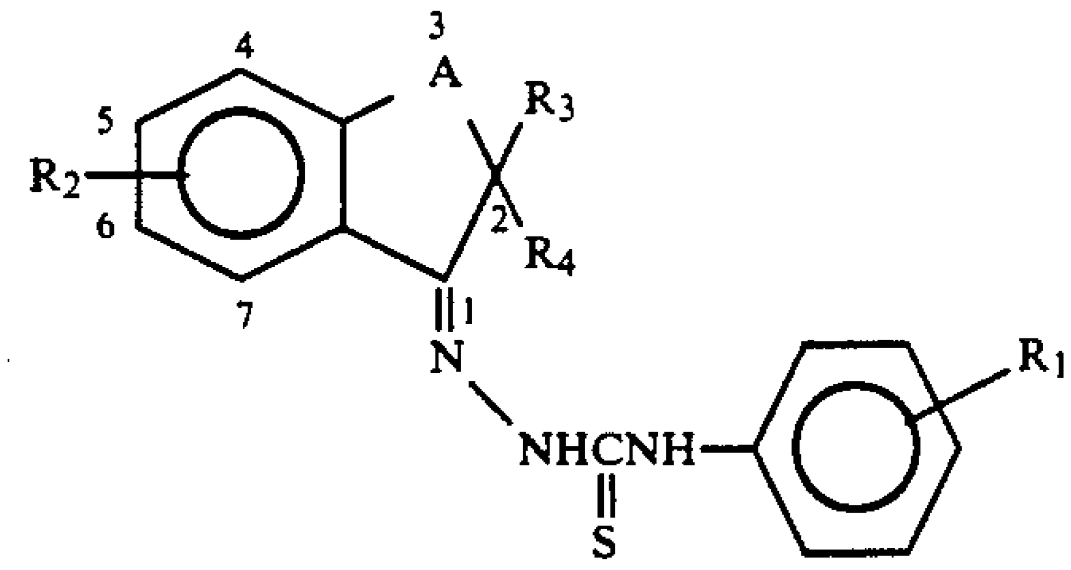
R_1	R_2	R_3	R_4	A
4-OCF_2H	5-F	Ph	H	CH_2
4-CF_3	5-F	4-F-Ph	H	CH_2
4-Cl	5-F	4-F-Ph	H	CH_2
4-Br	5-F	4-F-Ph	H	CH_2
4-OCF_2H	5-F	4-F-Ph	H	CH_2
4-CF_3	5-F	4-Cl-Ph	H	CH_2
4-Cl	5-F	4-Cl-Ph	H	CH_2
4-Br	5-F	4-Cl-Ph	H	CH_2
4-OCF_2H	5-F	4-Cl-Ph	H	CH_2
4-CF_3	5-F	4-OMe-Ph	H	CH_2
4-Cl	5-F	4-OMe-Ph	H	CH_2
4-Br	5-F	4-OMe-Ph	H	CH_2
4-OCF_2H	5-F	4-OMe-Ph	H	CH_2
4-CF_3	5-Cl	Ph	Me	CH_2
4-Cl	5-Cl	Ph	Me	CH_2
4-Br	5-Cl	Ph	Me	CH_2
4-OCF_2H	5-Cl	Ph	Me	CH_2
4-CF_3	5-Cl	5-Cl	Me	CH_2
4-Cl	5-Cl	5-Cl	Me	CH_2

TABLE 14-continued



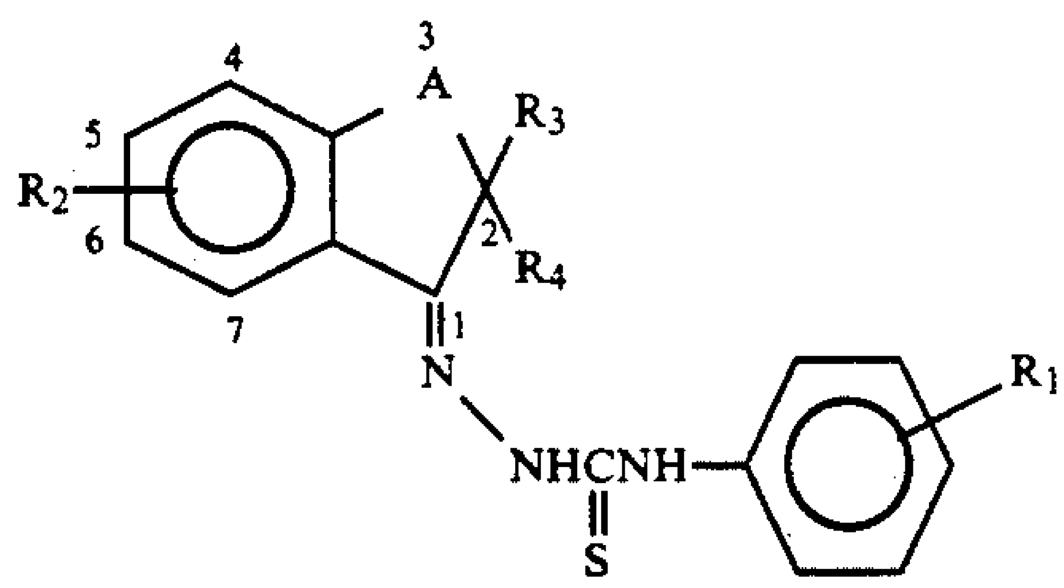
R_1	R_2	R_3	R_4	A
4-Br	5-Cl	5-Cl	Me	CH_2
4-OCF_2H	5-Cl	5-Cl	Me	CH_2
4-CF_3	5-F	Ph	Me	CH_2
4-Cl	5-F	Ph	Me	CH_2
4-Br	5-F	Ph	Me	CH_2
4-OCF_2H	5-F	Ph	Me	CH_2
4-CF_3	5-F	5-Cl	Me	CH_2
4-Cl	5-F	5-Cl	Me	CH_2
4-Br	5-F	5-Cl	Me	CH_2
4-OCF_2H	5-F	5-Cl	Me	CH_2
4-CF_3	5-Cl	CO_2Me	H	CH_2
4-Cl	5-Cl	CO_2Me	H	CH_2
4-Br	5-Cl	CO_2Me	H	CH_2
4-OCF_2H	5-Cl	CO_2Me	H	CH_2
4-CF_3	5-Cl	CO_2Me	Me	CH_2
4-Cl	5-Cl	CO_2Me	Me	CH_2
4-Br	5-Cl	CO_2Me	Me	CH_2
4-OCF_2H	5-Cl	CO_2Me	Me	CH_2
4-CF_3	4-F	CO_2Me	H	CH_2
4-Cl	4-F	CO_2Me	H	CH_2
4-Br	4-F	CO_2Me	H	CH_2
4-OCF_2H	4-F	CO_2Me	H	CH_2
4-CF_3	4-F	CO_2Me	Me	CH_2
4-Cl	4-F	CO_2Me	Me	CH_2
4-Br	4-F	CO_2Me	Me	CH_2
4-OCF_2H	4-F	CO_2Me	Me	CH_2
4-OCF_3	5-Cl	4-Cl-Ph	H	CH_2
4-OCF_2CF_2H	5-Cl	4-Cl-Ph	H	CH_2
3-Cl,4-CF_3	5-Cl	4-Cl-Ph	H	CH_2
3,4-$CH_2C(Me)_2O$	5-Cl	4-Cl-Ph	H	CH_2
3,4-CF_2CF_2O	5-Cl	4-Cl-Ph	H	CH_2
4-CN	5-Cl	4-Cl-Ph	H	CH_2
4-NO_2	5-Cl	4-Cl-Ph	H	CH_2
4-F	5-Cl	4-Cl-Ph	H	CH_2
3,4-di-Cl	5-Cl	4-Cl-Ph	H	CH_2
4-CO_2Me	5-Cl	4-Cl-Ph	H	CH_2
4-SCF_2H	5-Cl	4-Cl-Ph	H	CH_2
4-SCF_2CF_2H	5-Cl	4-Cl-Ph	H	CH_2
4-OCF_2CF_2H	5-Cl	4-Cl-Ph	H	CH_2
4-OCF_3	5-Cl	Ph	H	CH_2
4-OCF_2CF_2H	5-Cl	Ph	H	CH_2
3-Cl,4-CF_3	5-Cl	Ph	H	CH_2
3,4-$CH_2C(Me)_2O$	5-Cl	Ph	H	CH_2
3,4-CF_2CF_2O	5-Cl	Ph	H	CH_2
4-CN	5-Cl	Ph	H	CH_2
4-NO_2	5-Cl	Ph	H	CH_2
4-F	5-Cl	Ph	H	CH_2
3,4-di-Cl	5-Cl	Ph	H	CH_2
4-CO_2Me	5-Cl	Ph	H	CH_2
4-SCF_2H	5-Cl	Ph	H	CH_2
4-SCF_2CF_2H	5-Cl	Ph	H	CH_2
4-OCH_2CF_3	5-Cl	Ph	H	CH_2
4-CF_3	5-Cl	Ph	Me	O
4-Cl	5-Cl	Ph	Me	O
4-Br	5-Cl	Ph	Me	O
4-OCF_2H	5-Cl	Ph	Me	O
4-CF_3	5-Cl	4-Cl-Ph	Me	O
4-Cl	5-Cl	4-Cl-Ph	Me	O
4-Br	5-Cl	4-Cl-Ph	Me	O
4-OCF_2H	5-Cl	4-Cl-Ph	Me	O
4-CF_3	5-F	Ph	Me	O
4-Cl	5-F	Ph	Me	O
4-Br	5-F	Ph	Me	O
4-OCF_2H	5-F	Ph	Me	O
4-CF_3	5-F	4-Cl-Ph	Me	O
4-Cl	5-F	4-Cl-Ph	Me	O
4-Br	5-F	4-Cl-Ph	Me	O
4-OCF_2H	5-F	4-Cl-Ph	Me	O
4-CF_3	5-F	Me	allyl	O

TABLE 14-continued



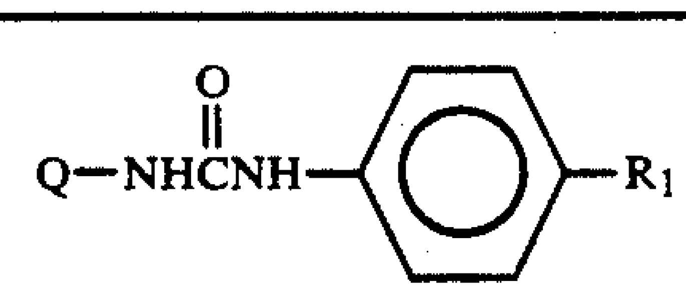
R_1	R_2	R_3	R_4	A
4-OCF_3	5-F	Me	allyl	O
4-CF_3	5-Cl	Me	allyl	O
4-OCF_3	5-Cl	Me	allyl	O
4-CF_3	5-CF_3	Me	allyl	O
4-OCF_3	5-CF_3	Me	allyl	O
4-CF_3	5-F	CH_2Ph	Me	O
4-OCF_3	5-F	CH_2Ph	Me	O
4-CF_3	5-Cl	CH_2Ph	Me	O
4-OCF_3	5-Cl	CH_2Ph	Me	O
4-CF_3	5-F	Me	H	O
4-OCF_3	5-F	Me	H	O
4-CF_3	5-Cl	Me	H	O
4-OCF_3	5-Cl	Me	H	O
4-CF_3	5-F	i-Pr	H	O
4-OCF_3	5-F	i-Pr	H	O
4-CF_3	5-Cl	i-Pr	H	O
4-OCF_3	5-Cl	i-Pr	H	O
4-CF_3	5-Cl	Ph	H	CH_2CH_2
4-Cl	5-Cl	Ph	H	CH_2CH_2
4-Br	5-Cl	Ph	H	CH_2CH_2
4-OCF_2H	5-Cl	Ph	H	CH_2CH_2
4-CF_3	5-Cl	4-Cl-Ph	H	CH_2CH_2
4-Cl	5-Cl	4-Cl-Ph	H	CH_2CH_2
4-Br	5-Cl	4-Cl-Ph	H	CH_2CH_2
4-OCF_2H	5-Cl	4-Cl-Ph	H	CH_2H_2
4-CF_3	5-Cl	4-F-Ph	H	CH_2H_2
4-Cl	5-Cl	4-F-Ph	H	CH_2H_2
4-Br	5-Cl	4-F-Ph	H	CH_2H_2
4-OCF_2H	5-Cl	4-F-Ph	H	CH_2CH_2
4-CF_3	5-Cl	4-NO_2Ph	H	CH_2CH_2
4-Cl	5-Cl	4-NO_2Ph	H	CH_2CH_2
4-Br	5-Cl	4-NO_2Ph	H	CH_2CH_2
4'OCF_2H	5-Cl	4-NO_2Ph	H	CH_2CH_2
4-CF_3	5-F	Ph	H	CH_2CH_2
4-Cl	5-F	Ph	H	CH_2CH_2
4-Br	5-F	Ph	H	CH_2CH_2
4-OCF_2H	5-F	Ph	H	CH_2CH_2
4-CF3	5-F	4-F-Ph	H	CH_2CH_2
4-Cl	5-F	4-F-Ph	H	CH_2CH_2
4-Br	5-F	4-F-Ph	H	CH_2CH_2
4-OCF_2H	5-F	4-F-Ph	H	CH_2CH_2
4-CF_3	5-F	4-Cl-Ph	H	CH_2CH_2
4-Cl	5-F	4-Cl-Ph	H	CH_2CH_2
4-Br	5-F	4-Cl-Ph	H	CH_2CH_2
4-OCF_2H	5-F	4-Cl-Ph	H	CH_2CH_2
4-CF_3	5-F	4-OMe	H	CH_2CH_2
4-Cl	5-F	4-OMe	H	CH_2CH_2
4-Br	5-F	4-OMe	H	CH_2CH_2
4-OCF_2H	5-F	4-OMe	H	CH_2CH_2
4-CF_3	5-Cl	Ph	Me	CH_2CH_2
4-Cl	5-Cl	Ph	Me	CH_2CH_2
4-Br	5-Cl	Ph	Me	CH_2CH_2
4-OCF_2H	5-Cl	Ph	Me	CH_2CH_2
4-CF_3	5-Cl	4-Cl-Ph	Me	CH_2CH_2
4-Cl	5-Cl	4-Cl-Ph	Me	CH_2CH_2
4-Br	5-Cl	4-Cl-Ph	Me	CH_2CH_2
4-OCF_2H	5-Cl	4-Cl-Ph	Me	CH_2CH_2
4-CF_3	5-F	Ph	Me	CH_2CH_2
4-Cl	5-F	Ph	Me	CH_2CH_2
4-Br	5-F	Ph	Me	CH_2CH_2
4-OCF_2H	5-F	Ph	Me	CH_2CH_2
4-CF_3	5-F	4-Cl-Ph	Me	CH_2CH_2
4-Cl	5-F	4-Cl-Ph	Me	CH_2CH_2
4-Br	5-F	4-Cl-Ph	Me	CH_2CH_2
4-OCF_2H	5-F	4-Cl-Ph	Me	CH_2CH_2
4-CF_3	5-Cl	CO_2Me	H	CH_2CH_2
4-Cl	5-Cl	CO_2Me	H	CH_2CH_2
4-Br	5-Cl	CO_2Me	H	CH_2CH_2
4-OCF_2H	5-Cl	CO_2Me	H	CH_2CH_2

TABLE 14-continued



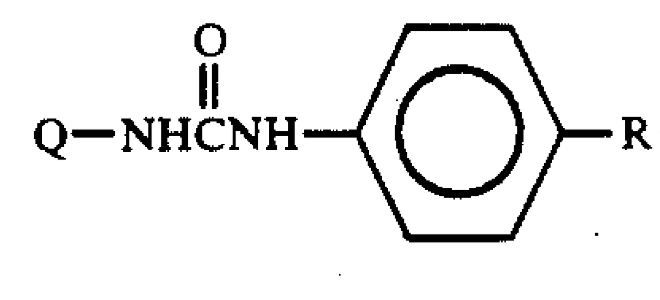
R_1	R_2	R_3	R_4	A
4-CF_3	5-Cl	CO_2Me	Me	CH_2CH_2
4-Cl	5-Cl	CO_2Me	Me	CH_2CH_2
4-Br	5-Cl	CO_2Me	Me	CH_2CH_2
4-OCF_2H	5-Cl	CO_2Me	Me	CH_2CH_2
4-CF_3	4-F	CO_2Me	H	CH_2CH_2
4-Cl	4-F	CO_2Me	H	CH_2CH_2
4-Br	4-F	CO_2Me	H	CH_2CH_2
4-OCF_2H	4-F	CO_2Me	H	CH_2CH_2
4-CF_3	4-F	CO_2Me	Me	CH_2CH_2
4-Cl	4-F	CO_2Me	Me	CH_2CH_2
4-Br	4-F	CO_2Me	Me	CH_2CH_2
4-OCF_2H	4-F	CO_2Me	Me	CH_2CH_2
4-OCF_3	5-Cl	4-Cl-Ph	H	CH_2CH_2
4-OCF_2CF_2H	5-Cl	4-Cl-Ph	H	CH_2CH_2
3-Cl,4-CF_3	5-Cl	4-Cl-Ph	H	CH_2CH_2
3,4-$CH_2C(Me)_2O$	5-Cl	4-Cl-Ph	H	CH_2CH_2
3,4-CF_2CF_2O	5-Cl	4-Cl-Ph	H	CH_2CH_2
4-CN	5-Cl	4-Cl-Ph	H	CH_2CH_2
4-NO_2	5-Cl	4-Cl-Ph	H	CH_2CH_2
4-F	5-Cl	4-Cl-Ph	H	CH_2CH_2
3,4-di-Cl	5-Cl	4-Cl-Ph	H	CH_2CH_2
4-CO_2Me	5-Cl	4-Cl-Ph	H	CH_2CH_2
4-SCF_2H	5-Cl	4-Cl-Ph	H	CH_2CH_2
4-SCF_2CF_2H	5-Cl	4-Cl-Ph	H	CH_2CH_2
4-OCH_2CF_3	5-Cl	4-Cl-Ph	H	CH_2CH_2
4-OCF_3	5-Cl	Ph	H	CH_2CH_2
4-OCF_2CF_2H	5-Cl	Ph	H	CH_2CH_2
3-Cl,4-CF_3	5-Cl	Ph	H	CH_2CH_2
3,4-$CH_2C(Me)_2O$	5-Cl	Ph	H	CH_2CH_2
3,4-CF_2CF_2O	5-Cl	Ph	H	CH_2CH_2
4-CN	5-Cl	Ph	H	CH_2CH_2
4-NO_2	5-Cl	Ph	H	CH_2CH_2
4-F	5-Cl	Ph	H	CH_2CH_2
3,4-di-Cl	5-Cl	Ph	H	CH_2CH_2
4-CO_2Me	5-Cl	Ph	H	CH_2CH_2
4-SCF_2H	5-Cl	Ph	H	CH_2CH_2
4-SCF_2CF_2H	5-Cl	Ph	H	CH_2CH_2
4-OCH_2CF_3	5-Cl	Ph	H	CH_2CH_2

TABLE 15



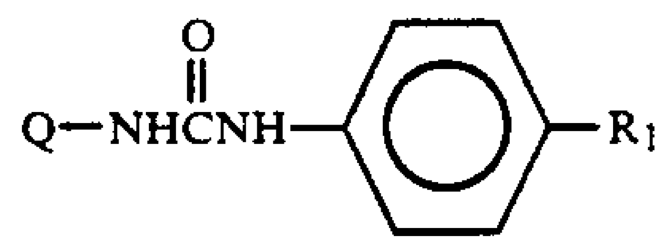
Q	R_1	R_2	R_3	R_4	A
Q-2	CF_3	H	H	H	CH_2
Q-2	OCF_3	H	H	H	CH_2
Q-2	CF_3	H	Me	H	CH_2
Q-2	OCF_3	H	Me	H	CH_2
Q-2	CF_3	H	4-F-Ph	H	CH_2
Q-2	OCF_3	H	4-F-Ph	H	CH_2
Q-2	CF_3	H	4-Cl-Ph	H	CH_2
Q-2	OCF_3	H	4-Cl-Ph	H	CH_2
Q-2	CF_3	5-CF_3	Me	H	CH_2
Q-2	OCF_3	5-CF_3	Me	H	CH_2
Q-2	CF_3	5-CF_3	4-F-Ph	H	CH_2
Q-2	OCF_3	5-CF_3	4-F-Ph	H	CH_2
Q-2	CF_3	5-CF_3	4-Cl-Ph	H	CH_2
Q-2	OCF_3	5-CF_3	4-Cl-Ph	H	CH_2
Q-2	CF_3	5-Cl	Me	H	CH_2
Q-2	OCF_3	5-Cl	Me	H	CH_2
Q-2	CF_3	5-Cl	4-F-Ph	H	CH_2
Q-2	OCF_2	5-Cl	4-F-Ph	H	CH_2
Q-2	CF_3	H	H	H	O

TABLE 15-continued



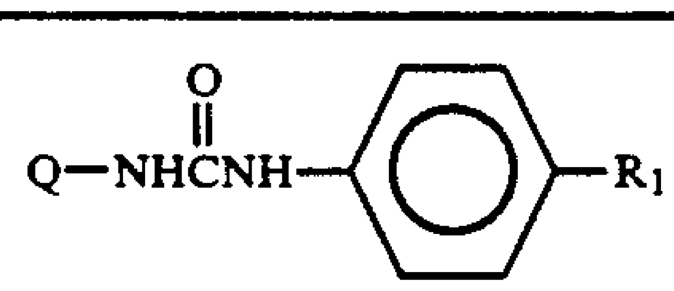
Q	R_1	R_2	R_3	R_4	A
Q-2	OCF_3	H	H	H	O
Q-2	CF_3	H	Me	H	O
Q-2	OCF_3	H	Me	H	O
Q-2	CF_3	H	4-F-Ph	Me	O
Q-2	OCF_3	H	4-F-Ph	Me	O
Q-2	CF_3	H	4-Cl-Ph	Me	O
Q-2	OCF_3	H	4-Cl-Ph	Me	O
Q-2	CF_3	H	i-Pr	H	O
Q-2	OCF_3	H	i-Pr	H	O
Q-2	CF_3	5-CF_3	H	H	O
Q-2	OCF_3	5-CF_3	H	H	O
Q-2	CF_3	5-CF_3	Me	H	O
Q-2	OCF_3	5-CF_3	Me	H	O
Q-2	CF_3	5-CF_3	i-Pr	H	O
Q-2	OCF_3	5-CF_3	i-Pr	H	O
Q-2	CF_3	5-CF_3	4-F-Ph	Me	O
Q-2	OCF_3	5-CF_3	4-F-Ph	Me	O
Q-3	CF_3	H	H	H	CH_2
Q-3	OCF_3	H	H	H	CH_2
Q-3	CF_3	H	Me	H	CH_2
Q-3	OCF_3	H	Me	H	CH_2
Q-3	CF_3	H	4-F-Ph	H	CH_2
Q-3	OCF_3	H	4-F-Ph	H	CH_2
Q-3	CF_3	H	4-Cl-Ph	H	CH_2
Q-3	OCF_3	H	4-Cl-Ph	H	CH_2
Q-3	CF_3	4-CF_3	Me	H	CH_2
Q-3	OCF_3	4-CF_3	Me	H	CH_2
Q-3	CF_3	4-CF_3	4-F-Ph	H	CH_2
Q-3	OCF_3	4-CF_3	4-F-Ph	H	CH_2
Q-3	CF_3	4-CF_3	4-Cl-Ph	H	CH_2
Q-3	OCF_3	4-CF_3	4-Cl-Ph	H	CH_2
Q-3	CF_3	4-CF_3	Me	H	CH_2
Q-3	OCF_3	4-CF_3	Me	H	CH_2
Q-3	CF_3	4-CF_3	4-F-Ph	H	CH_2
Q-3	OCF_3	4-CF_3	4-F-Ph	H	CH_2
Q-3	CF_3	H	H	H	O
Q-3	OCF_3	H	H	H	O
Q-3	CF_3	H	Me	H	O
Q-3	OCF_3	H	Me	H	O
Q-3	CF_3	H	4-F-Ph	Me	O
Q-3	OCF_3	H	4-F-Ph	Me	O
Q-3	CF_3	4-Cl-Ph	Me	O	
Q-3	OCF_3	H	4-Cl-Ph	Me	O
Q-3	CF_3	H	i-Pr	H	O
Q-3	OCF_3	H	i-Pr	H	O
Q-3	CF_3	4-CF_3	H	H	O
Q-3	OCF_3	4-CF_3	H	H	O
Q-3	CF_3	4-CF_3	Me	H	O
Q-3	OCF_3	4-CF_3	Me	H	O
Q-3	CF_3	4-CF_3	i-Pr	H	O
Q-3	OCF_3	4-CF_3	i-Pr	H	O
Q-3	CF_3	4-CF_3	4-F-Ph	Me	O
Q-3	OCF_3	4-CF_3	4-F-Ph	Me	O
Q-4	CF_3	H	H	H	CH_2
Q-4	OCF_3	H	H	H	CH_2
Q-4	CF_3	H	Me	H	CH_2
Q-4	OCF_3	H	Me	H	CH_2
Q-4	CF_3	H	4-F-Ph	H	CH_2
Q-4	OCF_3	H	4-F-Ph	H	CH_2
Q-4	CF_3	H	4-Cl-Ph	H	CH_2
Q-4	OCF_3	H	4-Cl-Ph	H	CH_2
Q-4	CF_3	5-CF_3	Me	H	CH_2
Q-4	OCF_3	5-CF_3	Me	H	CH_2
Q-4	CF_3	5-CF_3	4-F-Ph	H	CH_2
Q-4	OCF_3	5-CF_3	4-F-Ph	H	CH_2
Q-4	CF_3	5-CF_3	4-Cl-Ph	H	CH_2
Q-4	OCF_3	5-CF_3	4-Cl-Ph	H	CH_2
Q-4	CF_3	4-F	Me	H	CH_2
Q-4	OCF_3	4-F	Me	H	CH_2
Q-4	CF_3	4-F	4-F-Ph	H	CH_2
Q-4	OCF_3	4-F	4-F-Ph	H	CH_2
Q-4	CF_3	H	H	H	O
Q-4	OCF_3	H	H	H	O
Q-4	CF_3	H	Me	H	O
Q-4	OCF_3	H	Me	H	O

TABLE 15-continued



Q	R_1	R_2	R_3	R_4	A
Q-4	CF_3	H	4-F-Ph	Me	O
Q-4	OCF_3	4-F-Ph	Me	O	
Q-4	CF_3	H	4-Cl-Ph	Me	O
Q-4	OCF_3	H	4-Cl-Ph	Me	O
Q-4	CF_3	H	i-Pr	H	O
Q-4	OCF_3	H	i-Pr	H	O
Q-4	CF_3	5-CF_3	H	H	O
Q-4	OCF_3	5-CF_3	H	H	O
Q-4	CF_3	5-CF_3	Me	H	O
Q-4	OCF_3	5-CF_3	Me	H	O
Q-4	CF_3	5-CF_3	i-Pr	H	O
Q-4	OCF_3	5-CF_3	i-Pr	H	O
Q-4	CF_3	5-CF_3	4-F-Ph	Me	O
Q-4	OCF_3	5-CF_3	4-F-Ph	Me	O
Q-5	CF_3	H	H	H	CH_2
Q-5	OCF_3	H	H	H	CH_2
Q-5	CF_3	H	Me	H	CH_2
Q-5	OCF_3	H	Me	H	CH_2
Q-5	CF_3	H	4-F-Ph	H	CH_2
Q-5	OCF_3	H	4-F-Ph	H	CH_2
Q-5	CF_3	H	4-Cl-Ph	H	CH_2
Q-5	OCF_3	H	4-Cl-Ph	H	CH_2
Q-5	CF_3	5-CF_3	Me	H	CH_2
Q-5	OCF_3	5-CF_3	Me	H	CH_2
Q-5	CF_3	5-CF_3	4-F-Ph	H	CH_2
Q-5	OCF_3	5-CF_3	4-F-Ph	H	CH_2
Q-5	CF_3	5-CF_3	4-Cl-Ph	H	CH_2
Q-5	OCF_3	5-CF_3	4-Cl-Ph	H	CH_2
Q-5	CF_3	4-F	Me	H	CH_2
Q-5	OCF_3	4-F	Me	H	CH_2
Q-5	CF_3	4-F	4-F-Ph	H	CH_2
Q-5	OCF_3	4-F	4-F-Ph	H	CH_2
Q-5	CF_3	5-CF_3	H	H	O
Q-5	OCF_3	5-CF_3	H	H	O
Q-5	CF_3	5-CF_3	Me	H	O
Q-5	OCF_3	5-CF_3	Me	H	O
Q-5	CF_3	5-CF_3	4-F-Ph	Me	O
Q-5	OCF_3	5-CF_3	4-3F-Ph	Me	O
Q-5	CF_3	5-CF_3	4-Cl-Ph	Me	O
Q-5	OCF_3	5-CF_3	4-Cl-Ph	Me	O
Q-5	CF_3	5-CF_3	i-Pr	H	O
Q-5	OCF_3	5-CF_3	i-Pr	H	O
Q-5	CF_3	5-Cl	H	H	O
Q-5	OCF_3	5-Cl	H	H	O
Q-5	CF_3	5-Cl	Me	H	O
Q-5	OCF_3	5-Cl	Me	H	O
Q-5	CF_3	5-Cl	i-Pr	H	O
Q-5	OCF_3	5-Cl	i-Pr	H	O
Q-5	CF_3	5-Cl	4-F-Ph	Me	O
Q-5	OCF_3	5-Cl	4-F-Ph	Me	O

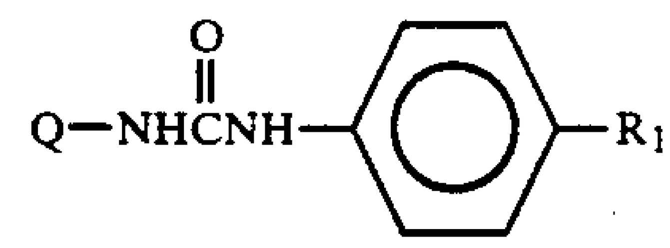
TABLE 16



(V = S)

Q	R_1	R_2	R_3	R_4	A
Q-6	CF_3	H	H	H	CH_2
Q-6	OCF_3	H	H	H	CH_2
Q-6	CF_3	H	Me	H	CH_2
Q-6	OCF_3	H	Me	H	CH_2
Q-6	CF_3	H	4-F-Ph	H	CH_2
Q-6	OCF_3	H	4-F-Ph	H	CH_2
Q-6	CF_3	H	4-Cl-Ph	H	CH_2
Q-6	OCF_3	H	4-Cl-Ph	H	CH_2
Q-6	CF_3	5-Cl	Me	H	CH_2
Q-6	OCF_3	5-Cl	Me	H	CH_2
Q-6	CF_3	5-Cl	4-F-Ph	H	CH_2
Q-6	OCF_3	5-Cl	4-F-Ph	H	CH_2

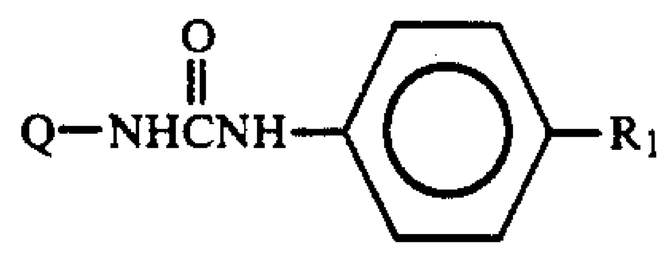
TABLE 16-continued



(V = S)

Q	R_1	R_2	R_3	R_4	A
Q-6	CF_3	5-Cl	4-Cl-Ph	H	CH_2
Q-6	OCF_2	5-Cl	4-Cl-Ph	H	CH_2
Q-6	CF_3	5-F	Me	H	CH_2
Q-6	OCF_3	5-F	Me	H	CH_2
Q-6	CF_3	5-F	4-F-Ph	H	CH_2
Q-6	OCF_3	5-F	4-F-Ph	H	CH_2
Q-6	CF_3	H	H	H	O
Q-6	OCF_3	H	H	H	O
Q-6	CF_3	H	Me	H	O
Q-6	OCF_3	H	Me	H	O
Q-6	CF_3	H	4-F-Ph	Me	O
Q-6	OCF_3	H	4-3F-Ph	Me	O
Q-6	CF_3	H	4-Cl-Ph	Me	O
Q-6	OCF_3	H	4-Cl-Ph	Me	O
Q-6	CF_3	H	i-Pr	H	O
Q-6	OCF_3	H	i-Pr	H	O
Q-6	CF_3	5-Cl	H	H	O
Q-6	OCF_3	5-Cl	H	H	O
Q-6	CF_3	5-Cl	Me	H	O
Q-6	OCF_3	5-Cl	Me	H	O
Q-6	CF_3	5-Cl	i-Pr	H	O
Q-6	OCF_3	5-Cl	i-Pr	H	O
Q-6	CF_3	5-Cl	4-F-Ph	Me	O
Q-6	OCF_3	5-Cl	4-F-Ph	Me	O
Q-7	CF_3	H	H	H	CH_2
Q-7	OCF_3	H	H	H	CH_2
Q-7	CF_3	H	Me	H	CH_2
Q-7	OCF_3	H	Me	H	CH_2
Q-7	CF_3	H	4-F-Ph	H	CH_2
Q-7	OCF_3	H	4-F-Ph	H	CH_2
Q-7	CF_3	H	4-Cl-Ph	H	CH_2
Q-7	OCF_3	H	4-Cl-Ph	H	CH_2
Q-7	CF_3	4-Cl	Me	H	CH_2
Q-7	OCF_3	4-Cl	Me	H	CH_2
Q-7	CF_3	4-Cl	4-F-Ph	H	CH_2
Q-7	OCF_3	4-Cl	4-F-Ph	H	CH_2
Q-7	CF_3	4-Cl	4-Cl-Ph	H	CH_2
Q-7	OCF_3	4-Cl	4-Cl-Ph	H	CH_2
Q-7	CF_3	4-F	Me	H	CH_2
Q-7	OCF_3	4-F	Me	H	CH_2
Q-7	CF_3	4-F	4-F-Ph	H	CH_2
Q-7	OCF_3	4-F	4-F-Ph	H	CH_2
Q-7	CF_3	H	H	H	O
Q-7	OCF_3	H	H	H	O
Q-7	CF_3	H	Me	H	O
Q-7	OCF_3	H	Me	H	O
Q-7	CF_3	H	4-F-Ph	Me	O
Q-7	OCF_3	H	4-3F-Ph	Me	O
Q-7	CF_3	H	4-Cl-Ph	Me	O
Q-7	OCF_3	H	4-Cl-Ph	Me	O
Q-7	CF_3	H	i-Pr	H	O
Q-7	OCF_3	H	i-Pr	H	O
Q-7	CF_3	4-F	H	H	O
Q-7	OCF_3	4-F	H	H	O
Q-7	CF_3	4-F	Me	H	O
Q-7	OCF_3	4-F	Me	H	O
Q-7	CF_3	4-F	i-Pr	H	O
Q-7	OCF_3	4-F	i-Pr	H	O
Q-7	CF_3	4-F	4-F-Ph	Me	O
Q-7	OCF_3	4-F	4-F-Ph	Me	O
Q-8	CF_3	H	H	H	CH_2
Q-8	OCF_3	H	H	H	CH_2
Q-8	CF_3	H	Me	H	CH_2
Q-8	OCF_3	H	Me	H	CH_2
Q-8	CF_2	H	4-F-Ph	H	CH_2
Q-8	OCF_3	H	4-F-Ph	H	CH_2
Q-8	CF_3	H	4-Cl-Ph	H	CH_2
Q-8	OCF_3	H	4-Cl-Ph	H	CH_2
Q-8	CF_3	4-F	Me	H	CH_2
Q-8	OCF_3	4-F	Me	H	CH_2
Q-8	CF_3	4-F	4-F-Ph	H	CH_2
Q-8	OCF_3	4-F	4-F-Ph	H	CH_2
Q-8	CF_3	4-F	4-Cl-Ph	H	CH_2

TABLE 16-continued



(V = S)

Q	R1	R2	R3	R4	A
Q-8	OCF_3	4-F	4-Cl-Ph	H	CH_2
Q	R_1	R_2	R_3	R_4	A
Q-8	CF_3	5-Cl	Me	H	CH_2
Q-8	OCF_3	5-Cl	Me	H	CH_2
Q-8	CF_3	5-Cl	4-F-Ph	H	CH_2
Q-8	OCF_3	5-Cl	4-F-Ph	H	CH_2
Q-8	CF_3	4-F	H	H	O
Q-8	OCF_3	4-F	H	H	O
Q-8	CF_3	4-F	Me	H	O
Q-8	OCF_3	4-F	Me	H	O
Q-8	CF_3	4-F	4-F-Ph	Me	O
Q-8	OCF_3	4-F	4-3F-Ph	Me	O
Q-8	CF_3	4-F	4-Cl-Ph	Me	O
Q-8	OCF_3	4-F	4-Cl-Ph	Me	O
Q-8	CF_3	4-F	i-Pr	H	O
Q-8	OCF_3	4-F	i-Pr	H	O
Q-8	CF_3	5-Cl	H	H	O
Q-8	OCF_3	5-Cl	H	H	O
Q-8	CF_3	5-Cl	Me	H	O
Q-8	OCF_3	5-Cl	Me	H	O
Q-8	CF_3	5-Cl	i-Pr	H	O
Q-8	OCF_3	5-Cl	i-Pr	H	O
Q-8	CF_3	5-Cl	4-F-Ph	Me	O
Q-8	OCF_3	5-Cl	4-F-Ph	Me	O

Arthropodicidal Formulation and Use

The compounds of this invention will generally be used in formulation with a carrier comprising a liquid or solid diluent or an organic solvent. Useful formulations of the compounds of Formula I can be prepared in conventional ways. They include dusts, granules, pellets, solutions, suspensions, emulsions, baits, wettable powders, emulsifiable concentrates, dry flowables and the like. Many of these can be applied directly. Sprayable formulations can be extended in suitable media and used at spray volumes of from about one to several hundred liters per hectare. High strength compositions are primarily used as intermediates for further formulation. The formulations, broadly, contain about 1% to 99% by weight of active ingredient(s) and at least one of a) about 0.1% to 20% surfactant(s) and b) about 5% to 99% solid or liquid diluent(s). More specifically, they will contain these ingredients in the following approximate proportions:

	Percent by Weight		
	Active Ingredient	Diluent(s)	Surfactant(s)
Wettable Powders	25-90	0-74	1-10
Oil Suspensions, Emulsions, Solutions, (including Emulsifiable Concentrates)	1-50	40-95	0-35
Dusts	1-25	70-99	0-5
Granules, Baits and Pellets	0.01-95	5-99	0-15
High Strength Compositions	90-99	0-10	0-2

Lower or higher levels of active ingredient can, of course, be present depending on the intended use and the Physical Properties of the compound. Higher ratios of surfactant to active ingredient are sometimes desirable, and are achieved by incorporation into the formulation or by tank mixing.

Typical solid diluents are described in Watkins, et al., "Handbook of Insecticide Dust Diluents and Carriers", 2nd Ed., Dorland Books, Caldwell, N.J. The more absorptive diluents are preferred for wettable powders and the denser ones for dusts. Typical liquid diluents and solvents are described in Marsden, "Solvents Guide," 2nd Ed., Interscience, N.Y., 1950. Solubility under 0.1% is preferred for suspension concentrates; solution concentrates are preferably stable against phase separation at 0° C. "McCutcheon's Detergents and Emulsifiers Annual", Allured Publ. Corp., Ridgewood, N.J., as well as Sisely and Wood, "Encyclopedia of Surface Active Agents", Chemical Publ. Co., Inc., N.Y., 1964, list surfactants and recommended uses. All formulations can contain minor amounts of additives to reduce foam, caking, corrosion, microbiological growth, etc. Preferably, ingredients should be approved by the U.S. Environmental Protection Agency for the use intended. The methods of making such compositions are well known. Solutions are prepared by simply mixing the ingredients. Fine solid compositions are made by blending and, usually, grinding as in a hammer or fluid energy mill. Suspensions are prepared by wet milling (see, for example, U.S. Pat. No. 3,060,084). Granules and pellets can be made by spraying the active material upon preformed granular carriers or by agglomeration techniques. See Browning, "Agglomeration", *Chemical Engineering*, Dec. 4, 1967, pages 147 and following, and "Perry's Chemical Engineer's Handbook", 4th Ed., McGraw-Hill, N.Y., 1963, pages 8 to 59 and following.

EXAMPLE A

Emulsifiable Concentrate

2-(5-chloro-2,3-dihydro-2-phenyl-1H-inden-1-ylidene)-N-[4-(trifluoromethyl)phenyl]hydrazinecarboxamide	20%
blend of oil soluble sulfonates and polyoxyethylene ethers	10%
isophorone	70%

The ingredients are combined and stirred with gentle warminq to speed solution. A fine screen filter is included in packaging operation to insure the absence of any extraneous undissolved material in the product.

EXAMPLE B

Wettable Powder

2-(5-chloro-2,3-dihydro-2-phenyl-1H-inden-1-ylidene)-N-[4-(trifluoromethyl)phenyl]hydrazinecarboxamide	30%
sodium alkylnaphthalenesulfonate	2%
sodium ligninsulfonate	2%
synthetic amorphous silica	3%
kaolinite	63%

The active ingredient is mixed with the inert materials in a blender. After grinding in a hammermill, the material is re-blended and sifted through a 50 mesh screen.

EXAMPLE C

Wettable powder of Example B	10%
pyrophyllite (powder)	90%

The wettable powder and the pyrophyllite diluent are thoroughly blended and then packaged. The Product is suitable for use as a dust.

EXAMPLE D

Granule

2-[5-chloro-2-(4-chlorophenyl)-2,3-dihydro-1H-inden-1-y lidene]-N-[4-(trifluoromethyl)phenyl]hydrazine-carboxamide	10%
attapulgite granules (low volative matter, 0.71/0.30 mm; U.S.S. No. 25-50 sieves)	90%

The active ingredient is dissolved in a volatile solvent such as acetone and sprayed upon dedusted and pre-warmed attapulgite granules in a double cone blender. The acetone is then driven off by heating. The granules are then allowed to cool and are packaged.

EXAMPLE E

Granule

Wettable powder of Example B	15%
gypsum	69%
potassium sulfate	16%

The ingredients are blended in a rotating mixer and water sprayed on to accomplish granulation. When most of the material has reached the desired range of 0.1 to 0.42 mm (U.S.S. No. 18 to 40 sieves), the granules are removed, dried, and screened. Oversize material is crushed to Produce additional material in the desired range. These granules contain 4.5% active ingredient.

EXAMPLE F

Solution

2-(5-chloro-2,3-dihydro-2-phenyl-1H-inden-1-ylidene)-N-[4-(trifluoromethyl)phenyl]hydrazinecarboxamide	25%
N-methyl-pyrrolidone	75%

The ingredients are combined and stirred to produce a solution suitable for direct, low volume application.

EXAMPLE G

Aqueous Suspension

2-(5-chloro-2,3-dihydro-2-phenyl-1H-inden-1-ylidene)-N-[4-(trifluoromethyl)phenyl]hydrazinecarboxamide	40%
polyacrylic acid thickener	0.3%
dodecyclophenol polyethylene glycol ether	0.5%
disodium phosphate	1.0%
monosodium phosphate	0.5%
polyvinyl alcohol	1.0%
water	56.7%

The ingredients are blended and ground together in a sand mill to produce Particles essentially all under 5 microns in size.

EXAMPLE H

Oil Suspension

2-[5-chloro-2-(4-chlorophenyl)-2,3-dihydro-1H-inden-1-ylidene]-N-[4-(trifluoromethyl)phenyl]hydrazine-carboxamide	35.0%
blend of polyalcohol carboxylic esters and oil soluble petroleum sulfonates	6.0%
xylene range solvent	59.0%

The ingredients are combined and ground together in a sand mill to produce Particles essentially all below 5 microns. The product can be used directly, extended with oils, or emulsified in water.

EXAMPLE I

Bait Granules

2-(5-chloro-2,3-dihydro-2-phenyl-1H-inden-1-ylidene)-N-[4-(trifluoromethyl)phenyl]hydrazinecarboxamide	3.0%
blend of polyethoxylated nonylphenols and sodium dodecylbenzene sulfonates	9.0%
ground up corn cobs	88.0%

The active ingredient and surfactant blend are dissolved in a suitable solvent such as acetone and sprayed onto the ground corn cobs. The granules are then dried and packaged. Compounds of Formula I can also be mixed with one or more other insecticides, fungicides, nematocides, bactericides, acaricides, or other biologically active compounds to form a multi-component pesticide giving an even broader spectrum of effective agricultural protection. Examples of other agricultural protectants with which compounds of the present invention can be mixed or formulated are:

Insecticides

3-hydroxy-N-methylcrotonamide(dimethylphosphate)ester (monocrotophos)
methylcarbamic acid, ester with 2,3-dihydro-2,2-dimethyl-7-benzofuranol (carbofuran)
O-[2,4,5-trichloro-α-(chloromethyl)benzyl]phosphoric acid, O',O'-dimethyl ester (tetrachlorvinphos)
2-mercaptosuccinic acid, diethyl ester, S-ester with thionophosphoric acid, dimethyl ester (malathion)
phosphorothioic acid, O,O-dimethyl, O-p-nitrophenyl ester (methyl parathion)
methylcarbamic acid, ester with α-naphthol (carbaryl)
methyl O-(methylcarbamoyl)thiolacetohydroxamate (methomyl)
N'-(4-chloro-o-tolyl)-N,N-dimethylformamidine (chlordimeform)
O,O-diethyl-O-(2-isopropyl-4-methyl-6-pyrimidylphosphorothioate (diazinon)
octachlorocamphene (toxaphene)
O-ethyl O-p-nitrophenyl phenylphosphonothioate (EPN) (S)-a-cyano-m-phenoxybenzyl(1R,3R)-3-(2,2-dibromovinyl)-2,2-dimethylcyclopropanecarboxylate (deltamethrin)
Methyl-N',N -dimethyl-N-[chloro(methylcarbamoyl-)oxychloro]-1-thioox amimidate (oxamyl)
cyano(3-phenoxyphenyl)-methyl-4-chloro-a-(1-methylethyl)benzeneacetate (fenvalerate)
(3-phenoxyphenyl)methyl(±)-cis,trans-3-(2,2-dichloro ethenyl)-2,2-dimethylcyclopropanecarboxylate (permethrin)

a-cyano-3-phenoxybenzyl 3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropane carboxylate (cypermethrin)
O-ethyl-S-(p-chlorophenyl)ethylphosphonodithioate (profenofos)
phosphorothiolothionic acid,
O-ethyl-O-[4-(methylthio)-phenyl]-S-n-propyl ester (sulprofos).

Additional insecticides are listed hereafter by their common names: triflumuron, diflubenzuron, methoprene, buprofezin, thiodicarb, acephate, azinphos-methyl, chlorpyrifos, dimethoate, fonophos, isofenphos, methidathion, methamidiphos, monocrotphos, phosmet, phosphamidon, phosalone, pirimicarb, phorate, profenofos, terbufos, trichlorfon, methoxychlor, bifenthrin, biphenate, cyfluthrin, fenpropathrin, fluvalinate, flucythrinate, tralomethrin, metaldehyde and rotenone.

Fungicides

methyl 2-benzimidazolecarbamate (carbendazim)
tetramethylthiuram disulfide (thiuram)
n-dodecylguanidine acetate (dodine)
manganese ethylenebisdithiocarbamate (maneb)
1,4-dichloro-2,5-dimethoxybenzene (chloroneb)
methyl 1-(butylcarbamoly)-2-benzimidazolecarbamate (benomyl)
1-[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxolan-2-ylmethyl]-1H-1,2,4-triazole (propiconazole)
2-cyano-N-ethylcarbamoy-2-methoxyiminoacetamide (cymoxanil)
1-(4-chlorophenoxy)-3,3-dimethyl-1-(1H-1,2,4-triazol-1-yl)-2-butanone chloro(triadimefonchloro)
N-(trichloromethylthio)tetrahydrophthalimide (captan)
N-(trichloromethylthio)chlorophthalimide (folpetchloro)
1-chloro[[[bis(4-fluorophenyl)][methyl]silyl]methyl]-1H-1,2,4-triazole.

Nematocides

S-methyl 1-(dimethylcarbamoyl)-N-(methylcarbamoyloxy)-thioformimidate
S-methyl
1-carbamoyl-N-(methylcarbamoyloxy)thioformimidate
N-isopropylphosphoramidic acid, O-ethyl
O'-[4-(methylthio)-m-tolyl]diester (fenamiphos)

Bactericides

tribasic copper sulfate
streptomycin sulfate

Acaricides

senecioic acid, ester with 2-sec-butyl-4,6-dinitrophenol (binapacryl)
6-methyl-1,3-cithiolo[4,5-β]quinoxalin-2-one (oxythioquinox)
ethyl 4,4'-dichlorobenzilate (chlorobenzilate) 1,1bis(p-chlorophenyl)-2,2,2-trichloroethanol (dicofol)
bis(pentachloro-2,4-cyclopentadien-1-yl) (dienochlor)
tricyclohexyltin hydroxide (cyhexatin)
trans-5-(4-chlorophenylchloro)-N-cyclohexyl-4-methyl-2-oxothiazolidine-3-carboxamide (hexythiazox)
amitraz
propargite
fenbutatin-oxide

Biological

Bacillus thuringiensis
Avermectin B.

Utility

The compounds of this invention exhibit activity against a wide spectrum of foliar and soil inhabiting arthropods which are pests of growing and stored agronomic cropschloro, forestry, greenhouse cropschloro, ornamentals, nursery crops, stored food and fiber products, livestock, household, and public and animal health. Those skilled in the art will recognize that not all compounds are equally effective against all pests but the compounds of this invention display activity aqainst economically important aqronomic, forestry, qreenhouse, ornamental food and fiber product, stored product, and nursery Pests, such as:

larvae of the order Lepidoptera including fall and beet armyworm and other Spodoptera spp., tobacco budworm, corn earworm and other Heliothis spp., European corn borer, navel orangeworm, stalk/stem borers and other pyralids, cabbage and soybean loopers and other loopers, codling mothchloro, grape berry moth and other tortricids, black cutworm, spotted cutworm, other cutworms and other noctuids, diamondback moth, greechloron cloverworm, velvetbean caterpillar, green cloverworm, pink bollworm, gypsy moth, and spruce budworm;

foliar feeding larvae and adults of the order Coleoptera including Colorado potato beetle, Mexican bean beetle, flea beetle, Japanese beetles, and other leaf beetles, boll weevil, rice water weevil, qranary weevil, rice weevil and other weevil pests, and soil inhabiting insects such as Western corn rootworm and other Diabrotica spp., Japanese beetle, European chafer and other coleopteran grubs, and wireworms;

adults and larvae of the orders Hemiptera and Homoptera including tarnished Plant bug and other plant bugs (midridae), aster leafhopper and other leafhoppers (cicadellidae), rice planthopper, brown planthopper, and other planthoppers (fulgoroidea), Psylids, whiteflies (aleurodidae), aphids (aphidae), scales (coccidae and diaspididae), lace bugs (tingidae), stink bugs (pentatomidae), cinch bugs and other seed bugs (lygaeidae), cicadas (cicadidae), spittlebugs (cerocopids), squash bugs (coreidae), red bugs and cotton stainers (pyrrhocoridae);

adults and larvae of the order acari (mites) including European red mitechloro, two spotted spider mite, rust mites, McDaniel mite, and foliar feeding mites;

adults and immatures of the order Orthoptera including grasshoppers;

adults and immatures of the order Diptera including leafminers, midges, fruit flies (tephritidae), and soil maggots; adults and immatures of the order Thysanoptera including onion thrips and other foliar feeding thrips.

The compounds are also active against economically important livestock, household, public and animal health pests such as:

insect pests of the order Hymenoctera including carpenter ants, bees, hornets, and wasps;

insect pests of the order Diptera including house files, stable flies, face flies, horn flies, blow flies, and other muscoid fly pests, horse flies, deer flies and other Brachycera, mosquitoes, black flies, biting midges, sand flies, sciarids, and other Nematocera;

insect pests of the order Isoptera including including cockroaches and crickets;

insect pests of the order Isoptera including the Eastern subterranean termite and other termites;

insect pests of the order Mallophaga and Anoplura including the head louse, body louse, chicken head louse and other sucking and chewing parasitic lice that attack man and animals;

insect pests of the order Siphonoptera including the cat flea, dog flea and other fleas.

The specific species for which control is exemplified are: fall armyworm, *Spodoptera fruigiperda*; tobacco budworm, *Heliothis virescens*; boll weevil, *Anthonomus grandis*; aster leafhopper, *Macrosteles fascifrons*; southern corn rootworm, *Diabrotica undecimpunctata*. The pest control protection afforded by these compounds of the present invention is not limited, however to these species.

Application

Arthropod pests are controlled and protection of agronomic crops, animal and human health is achieved by applying one or more of the Formula I compounds of this invention, in an effective amount, to the locus of infestation, to the area to be protected, or directly on the pests to be controlled. Because of the diversity of habitat and behavior of these arthropod pest species, many different methods of application are employed. A preferred method of application is by spraying with equipment that distributes the compound in the environment of the pests, on the foliage, animal, person, or premise, in the soil or animal, to the plant part that is infested or needs to be protected. Alternatively, granular formulations of these toxicant compounds can be applied to or incorporated into the soil.

Other methods of application can also be employed including direct and residual sprays, aerial, baits, eartags, boluses, foggers, aerosols, and many others. The compounds can be incorporated into baits that are consumed by the arthropods or in devices such as traps and the like which entice them to ingest or otherwise contact the compounds.

The compounds of this invention can be applied in their pure state, but most often application will be of a formulation comprising one or more compounds with suitable carriers, diluents, and surfactants and possibly in combination with a food depending on the contemplated end use. A preferred method of application involves spraying a water dispersion or refined oil solution of the compounds. Combinations with spray oils, spray oil concentrations, and synergists such as piperonyl butoxide often enhance the efficacy of the compounds of Formula I.

The rate of application of the Formula I compounds required for effective control will depend on such factors as the species of arthropod to be controlled, the pest's life cycle, life stage, its size, location, time of year, host crop or animal, feeding behavior, mating behavior, ambient moisture, temperature, etc. In general, application rates of 0.05 to 2 kg of active ingredient per hectare are sufficient to provide large-scale effective control of pests in agronomic ecosystems under normal circumstances, but as little as 0.001 kg/hectare or as much as 8 kg hectare may be required. For nonagronomic applications, effective use rates will range from about 0.1 to 5 mg/square foot but as little as about 0.01 mg/square foot or as much as 15 mg/square foot may be required.

The following Examples demonstrate the control efficacy of compounds of Formula I on specific pests; see Tables 1 to 10 for compound descriptions. Compounds followed by a dash in the percent mortality column were either not screened or had less than 80% mortality on the test species.

EXAMPLE 8

Test units, each consisting of an 8-ounce plastic cup containing a layer of wheat germ diet, approximately 0.5 cm thick, were prepared. Ten third-instar larvae of fall armyworm (*Spodoptera frugiperda*) were placed into each cup. Solutions of each of the test compounds (acetone/distilled water 75/25 solvent) were sprayed onto the cups, a single solution per set of three cups. Spraying was accomplished by passing the cups, on a conveyer belt, directly beneath a flat fan hydraulic nozzle which discharged the spray at a rate of 0.5 pounds of active ingredient per acre (about 0.55 kg/ha) at 30 p.s.i. The cups were then covered and held at 27° C. and 50% relative humidity for 72 hours, after which time readings were taken. The results are tabulated below.

Compound	% Mort.
1	100
2	100
3	100
4	100
5	100
6	—
7	100
8	100
9	100
10	100
11	100
12	100
13	100
14	100
15	100
16	100
17	100
18	67
19	60
20	47
21	100
22	87
23	100
24	87
25	100
26	100
27	100
28	—
29	100
30	100
31	—
32	—
33	—
34	100
35	—
36	100
37	100
38	100
39	87
40	93
41	73
42	100
43	100
44	100
45	100
46	100
47	100
48	87
49	80
50	80
51	100
52	—
53	—
54	100
55	100
56	—
57	80

-continued

Compound	% Mort.
58	—
59	80
60	47
61	100
62	100
63	60
64	—
65	—
66	100
67	100
68	100
69	100
70	—
71	40
72	100
73	93
74	27
75	20
76	—
77	100
78	20
79	40
80	—
81	87
82	33
83	80
84	60
85	80
86	—
87	—
88	73
89	—
90[1]	100
91	100
92	100
93	100
94	100
95	93
96	—
97	—
98	100
99	93
100	60
101	—
102	—
103	—
104	100
105	100
106	100
107	100
108	100
109	—
110	100
111	100
112	100
113	33
114	—
115	—
116	—
117	—
118	—
119	—
120	—
121	60
122	—
123	—
124	—
125	—
126	—
127	—
128	—
129	—
130	—
131	—
132	—
133	—
134	33
135	—
136	—
137	—
138	33

-continued

Compound	% Mort.
139	—
140	—
141	—
142	33
143	100
144	60
145	—
146	—
147	—
148	—
149	13
150	—
151	—
152	—
153	—
154	—
155	—
156	—
157	—
158	—
159	—
160	20
161	—
162	—
163	—
164	—
165	0
166	0
167	—
168	47
169	—
170	20
171	—
172	—
173	—
174	—
175	—
176	67
177	87
178	33
179	—
180	—
181	100
182	—
183	—
184	—
185	—
186	—
187	—
188	—
189	100
190	93
191	20
192	—
193	60
194	—
195	—
196	—
197	—
198	—
199	—
200	—
201	—
202	100
203	—
204	100
205	67
206	100
207	—
208	—
209	40
210	—
211	—
212	.100
213	—
214	—
215	—
216	73
217	—
218	—
219	—

-continued

Compound	% Mort.
220	60
221	—
222	100
223	—
224	47
225	—
226	—
227	73
228	—
229	—
230	—
231	—
232	—
233	—
234	47
235	—
236	—
237	87
238	53
239	—
240	93
241	100
242	100
243	13
244	—
245	67
246	—
247	—
248	—
249	—
250	40
251	40
252	67
253	87
254	100
255	30
256	—
257	—
258	60
259	—
260	—
261	—
262	—
263	—
264	—
265	—
266	—
267	—
268	—
269	—

[1]Test procedure was identical to that described except there was only one test cup.

EXAMPLE 9

Tobacco Budworm

The test procedure of Example 8 was repeated for efficacy against third-instar larvae of the tobacco budworm (*Heliothis virescens*) except that mortality was assessed at 48 hours. The results are tabulated below.

Compound	% Mort.
1	100
2	100
3	73
4	100
5	93
6	—
7	100
8	100
9	100
10	100
11	100
12	100
13	100
14	100
15	100

-continued

Compound	% Mort.
16	100
17	100
18	100
19	40
20	67
21	100
22	—
23	—
24	13
25	100
26	100
27	100
28	47
29	87
30	73
31	—
32	—
33	—
34	—
35	0
36	93
37	100
38	100
39	73
40	100
41	73
42	100
43	87
44	100
45	100
46	100
47	73
48	33
49	—
50	60
51	—
52	—
53	—
54	100
55	100
56	—
57	—
58	—
59	100
60	—
61	40
62	—
63	0
64	—
65	—
66	100
67	100
68	87
69	100
70	93
71	—
72	100
73	60
74	—
75	—
76	—
77	100
78	20
79	—
80	—
81	—
82	—
83	—
84	—
85	—
86	—
87	—
88	60
89	—
90[1]	—
91	100
92	100
93	100
94	87
95	80
96	—

-continued

Compound	% Mort.
97	—
98	100
99	—
100	—
101	—
102	—
103	87
104	33
105	100
106	100
107	100
108	—
109	—
110	67
111	—
112	—
113	—
114	—
115	—
116	—
117	—
118	—
119	—
120	—
121	—
122	—
123	—
124	—
125	—
126	—
127	—
128	—
129	—
130	—
131	—
132	0
133	—
134	—
135	—
136	—
137	—
138	67
139	—
140	27
141	—
142	20
143	100
144	80
145	—
146	—
147	—
148	—
149	—
150	—
151	—
152	—
153	—
154	—
155	—
156	—
157	—
158	—
159	—
160	—
161	—
162	—
163	—
164	—
165	80
166	73
167	40
168	—
169	—
170	47
171	—
172	27
173	—
174	—
175	—
176	80
177	20

-continued

Compound	% Mort.
178	—
179	73
180	—
181	53
182	—
183	—
184	—
185	—
186	—
187	—
188	—
189	—
190	53
191	—
192	—
193	—
194	13
195	—
196	—
197	—
198	—
199	—
200	—
201	—
202	100
203	—
204	67
205	67
206	100
207	33
208	—
209	60
210	—
211	—
212	—
213	—
214	—
215	—
216	20
217	13
218	—
219	—
220	—
221	—
222	—
223	—
224	—
225	—
226	—
227	—
228	—
229	—
230	—
231	—
232	—
233	—
234	—
235	—
236	80
237	—
238	60
239	80
240	—
241	70
242	93
243	7
244	—
245	—
246	—
247	—
248	—
249	—
250	—
251	—
252	87
253	53
254	—
255	7
256	33
257	47
258	33

-continued

Compound	% Mort.
259	—
260	—
261	—
262	—
263	—
264	—
265	—
266	—
267	—
268	—
269	—

EXAMPLE 10

Aster Leafhopper

Test units were prepared from a series of 12-ounce cups, each containing oat (*Avena sativa*) seedlings in a 1-inch layer of sterilized soil. The test units were sprayed with individual solutions of the below-listed compounds. After the oats had dried from being sprayed, between 10 and 15 adult aster leafhoppers (*Mascrosteles fascifrons*) were aspirated into each of the covered cups. The cups were held at 27° C. and 50% relative humidity for 48 hours, after which time mortality readings were taken. The following table depicts the activity of the compounds tested on aster leafhopper.

Compound	% Mort.
1	—
2	—
3	—
4	6
5	—
6	—
7	44
8	—
9	100
10	85
11	—
12	95
13	83
14	—
15	73
16	75
17	—
18	100
19	100
20	100
21	—
22	—
23	—
24	—
25	—
26	—
27	—
28	—
29	—
30	—
31	—
32	—
33	—
34	—
35	—
36	—
37	91
38	—
39	—
40	—
41	60
42	98
43	89
44	—
45	100
46	—

-continued

Compound	% Mort.
47	100
48	—
49	—
50	—
51	—
52	—
53	—
54	—
55	—
56	—
57	—
58	—
59	—
60	12
61	96
62	—
63	—
64	—
65	—
66	50
67	—
68	72
69	88
70	84
71	—
72	—
73	—
74	—
75	—
76	—
77	100
78	83
79	71
80	—
81	100
82	—
83	82
84	—
85	—
86	—
87	—
88	91
89	—
90[1]	—
91	—
92	77
93	94
94	—
95	74
96	—
97	—
98	—
99	100
100	—
101	—
102	—
103	—
104	—
105	100
106	84
107	100
108	71
109	—
110	—
111	—
112	—
113	—
114	—
115	—
116	—
117	—
118	—
119	—
120	—
121	—
122	—
123	—
124	—
125	—
126	—
127	—

-continued

Compound	% Mort.
128	—
129	—
130	—
131	—
132	—
133	—
134	—
135	—
136	—
137	—
138	92
139	—
140	—
141	—
142	—
143	—
144	—
145	—
146	—
147	—
148	—
149	—
150	—
151	—
152	—
153	—
154	—
155	—
156	—
157	—
158	—
159	—
160	—
161	—
162	—
163	—
164	—
165	36
166	—
167	—
168	—
169	—
170	—
171	—
172	—
173	—
174	—
175	—
176	91
177	93
178	60
179	—
180	—
181	98
182	68
183	—
184	—
185	—
186	
187	—
188	—
189	81
190	70
191	—
192	95
193	—
194	—
195	—
196	—
197	—
198	—
199	—
200	—
201	—
202	100
203	—
204	94
205	—
206	66
207	57
208	—

-continued

Compound	% Mort.
209	—
210	90
211	—
212	88
213	—
214	—
215	—
216	—
217	—
218	—
219	—
220	—
221	—
222	—
223	—
224	—
225	—
226	—
227	—
228	—
229	—
230	—
231	—
232	—
233	—
234	92
235	100
236	91
237	98
238	98
239	98
240	100
241	97
242	—
243	—
244	—
245	—
246	—
247	—
248	—
249	—
250	—
251	—
252	—
253	—
254	—
255	—
256	—
257	—
258	62
259	—
260	—
261	—
262	—
263	—
264	—
265	—
266	—
267	—
268	—
269	—

EXAMPLE 11

Southern Corn Rootworm

Test units, each consisting of an 8-ounce plastic cup containing 1 sprouted corn seed, were prepared. Sets of three tests units were sprayed as described in Example 8 with individual solutions of the below-listed compounds. After the spray on the cups had dried, five third-instar larvae of the southern corn rootworm (*Diabrotica undecimpunctata howardi*) were placed into each cup. A moistened dental wick was inserted into each cup to prevent drying and the cups were then covered. The cups were then held at 27° C. and 50% relative humidity for 48 hours, after which time mortality readings were taken. The results are tabulated below.

Compound	% Mort.
1	100
2	100
3	100
4	100
5	100
6	—
7	100
8	100
9	100
10	100
11	100
12	100
13	100
14	100
15	100
16	100
17	100
18	100
19	100
20	100
21	100
22	—
23	100
24	93
25	—
26	87
27	—
28	—
29	—
30	87
31	100
32	—
33	—
34	100
35	—
36	100
37	100
38	100
39	100
40	80
41	100
42	100
43	100
44	100
45	—
46	100
47	—
48	—
49	—
50	47
51	100
52	—
53	—
54	100
55	100
56	—
57	—
58	30
59	100
60	80
61	100
62	100
63	80
64	100
65	—
66	100
67	100
68	100
69	100
70	100
71	47
72	73
73	—
74	100
75	67
76	67
77	100
78	—
79	100
80	—
81	100
82	100
83	100
84	—
85	—
86	—
87	93
88	100
89	100
90[1]	—
91	100
92	100
93	100
94	100
95	100
96	100
97	100
98	100
99	100
100	100
101	100
102	40
103	—
104	—
105	100
106	67
107	100
108	100
109	—
110	100
111	100
112	100
113	—
114	—
115	—
116	—
117	—
118	—
119	—
120	—
121	—
122	—
123	—
124	—
125	—
126	—
127	—
128	—
129	—
130	60
131	—
132	—
133	47
134	100
135	—
136	100
137	100
138	100
139	100
140	93
141	100
142	—
143	100
144	100
145	87
146	—
147	100
148	47
149	—
150	—
151	—
152	100
153	—
154	—
155	—
156	—
157	—
158	—
159	—

-continued

Compound	% Mort.
160	0
161	—
162	—
163	—
164	93
165	100
166	87
167	—
168	100
169	100
170	100
171	—
172	93
173	100
174	—
175	—
176	100
177	100
178	100
179	100
180	100
181	100
182	100
183	60
184	—
185	100
186	100
187	—
188	—
189	100
190	100
191	100
192	100
193	100
194	100
195	—
196	—
197	—
198	—
199	—
200	—
201	—
202	100
203	—
204	100
205	100
206	100
207	93
208	100
209	100
210	100
211	100
212	100
213	—
214	—
215	—
216	—
217	—
218	—
219	—
220	—
221	—
222	—
223	—
224	100
225	—
226	—
227	100
228	13
229	—
230	—
231	—
232	—
233	—
234	100
235	100
236	100
237	100
238	100
239	100
240	100

-continued

Compound	% Mort.
241	100
242	100
243	—
244	—
245	27
246	—
247	—
248	—
249	—
250	—
251	—
252	100
253	100
254	80
255	100
256	—
257	93
258	100
259	—
260	93
261	—
262	—
263	—
264	—
265	—
266	—
267	—
268	—
269	—

EXAMPLE 12

Boll Weevil

Five adult boll weevils (*Anthonomus grandis*) were placed into each of a series of 9-ounce cups. The test procedure employed was then otherwise the same as in Example 8 with three cups per treatment. Mortality readings were taken 48 hours after treatment. The results are tabulated below.

Compound	% Mort.
1	87
2	66
3	20
4	100
5	80
6	—
7	100
8	—
9	100
10	100
11	100
12	100
13	100
14	100
15	100
16	100
17	100
18	100
19	100
20	100
21	100
22	93
23	100
24	100
25	—
26	—
27	—
28	—
29	100
30	100
31	100
32	—
33	—
34	100

-continued

Compound	% Mort.
35	—
36	87
37	100
38	73
39	87
40	100
41	100
42	100
43	100
44	93
45	93
46	93
47	100
48	80
49	67
50	80
51	93
52	—
53	—
54	100
55	—
56	—
57	53
58	—
59	100
60	—
61	100
62	100
63	100
64	100
65	—
66	100
67	100
68	100
69	93
70	53
71	—
72	40
73	87
74	100
75	60
76	93
77	100
78	100
79	100
80	—
81	100
82	100
83	100
84	100
85	80
86	—
87	100
88	100
89	100
90[1]	—
91	93
92	100
93	100
94	100
95	100
96	73
97	67
98	100
99	100
100	100
101	100
102	40
103	—
104	—
105	100
106	100
107	100
108	100
109	—
110	100
111	100
112	100
113	7
114	—
115	—

-continued

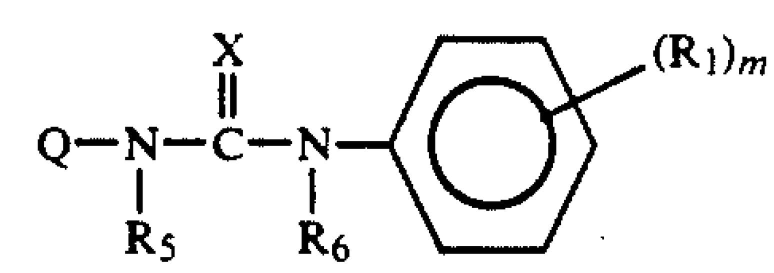
Compound	% Mort.
116	—
117	—
118	—
119	—
120	—
121	—
122	67
123	—
124	—
125	—
126	—
127	—
128	—
129	—
130	—
131	—
132	—
133	100
134	93
135	—
136	—
137	93
138	100
139	47
140	93
141	93
142	—
143	100
144	100
145	—
146	60
147	93
148	67
149	0
150	—
151	—
152	—
153	—
154	—
155	—
156	—
157	—
158	—
159	—
160	33
161	—
162	—
163	33
164	73
165	100
166	80
167	13
168	93
169	87
170	100
171	—
172	—
173	20
174	—
175	—
176	100
177	100
178	73
179	—
180	—
181	100
182	87
183	100
184	—
185	87
186	73
187	—
188	—
189	100
190	93
191	100
192	100
193	100
194	60
195	—
196	—

-continued

Compound	% Mort.
197	—
198	—
199	—
200	—
201	—
202	100
203	—
204	100
205	100
206	100
207	87
208	100
209	100
210	93
211	100
212	100
213	—
214	—
215	—
216	100
217	—
218	—
219	—
220	—
221	—
222	—
223	—
224	—
225	—
226	—
227	87
228	—
229	—
230	—
231	—
232	—
233	—
234	—
235	33
236	80
237	—
238	—
239	—
240	93
241	—
242	100
243	—
244	—
245	27
246	—
247	—
248	—
249	—
250	—
251	—
252	100
253	100
254	100
255	93
256	100
257	87
258	93
259	—
260	—
261	—
262	20
263	—
264	—
265	—
266	—
267	—
268	—
269	—

What is claimed is:

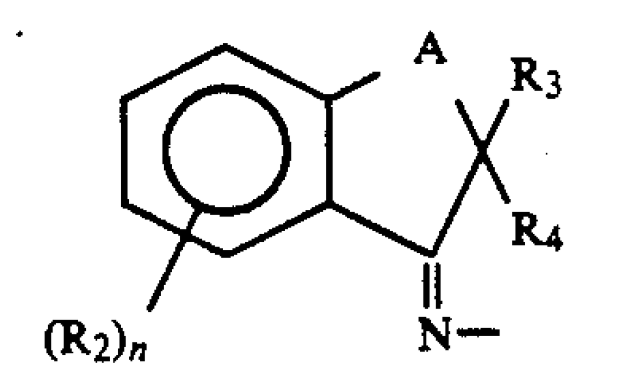
1. A compound of the formula



I

wherein:

Q is



Q-1

A is $(CH_2)_t$, wherein, each carbon individually can be substituted with 1 to 2 substituents selected from 1 to 2 halogen, C_1–C_6 alkyl, C_3–C_6 cycloalkyl, C_3–C_6 halocycloalkyl, C_4–C_7 alkylcycloalkyl, C_2–C_4 alkoxycarbonyl, or phenyl optionally substituted with 1 to 3 substituent independently selected from W;

R_1 and R_2 are independently R_8, halogen, CN, NO_2, N_3, SCN, OR_8, SR_8, SOR_8, SO_2R_8, NR_8R_9, $C(O)R_8$, CO_2R_8, $C(O)NR_8R_9$, $OC(O)R_8$, OCO_2R_8, $OC(O)NR_8R_9$, $NR_9C(O)R_8$, $NR_9C(O)NR_8R_9$, OSO_2R_8, $NR_9SO_2R_8$; R_2 being other than CH_3 when R_1, R_3 and R_4 are H and A is CH_2;

R_3 is H, C_1–C_6 alkyl, C_1–C_6 haloalkyl, C_4–C_6 alkylcycloalkyl, C_2–C_6 alkenyl, C_2–C_6 haloalkenyl, C_2–C_6 alkynyl, C_2–C_6 haloalkynyl, C_2–C_6 alkoxyalkyl, C_2–C_6 cyanoalkyl, C_3–C_8 alkoxycarbonylalkyl, OR_8, $S(O)_qR^8$, NR_8R^9, CN, CO_2R_8, $C(O)R_8$, $C(O)NR_8R_9$, $C(S)NR_9R^9$, $C(S)R_8$, $C(S)SR_8$, phenyl optionally substituted with $(R_{10})_p$ or benzyl optionally substituted with 1 to 3 substituents independently selected from W or R_3 is C_3–C_6 cycloalkyl optionally substituted with 1 to 2 halogens or 1 to 2 CH_3;

R_4 is H, C_1–C_6 alkyl, C_1–C_6 haloalkyl, C_2–C_6 alkenyl, C_2–C_6 haloalkenyl, C_2–C_6 alkynyl, C_2–C_6 haloalkynyl, C_2–C_6 alkoxyalkyl, C_2–C_6 cyanoalkyl, phenyl optionally substituted with $(R_{10})_p$ or benzyl optionally substituted with 1 to 3 substituents independently selected from W;

R_5 and R_6 are independently H, C_1–C_{22} alkyl, C_2–C_{22} alkoxyalkyl, C_2–C_{22} alkylcarbonyl, C_2–C_{22} alkoxycarbonyl, C_2–C_{22} haloalkyl carbonyl, C_2–C_{22} haloalkoxycarbonyl, SR_{11}, CHO, C_1–C_4 alkylsulfonyl, phenylsulfonyl optionally substituted with 1 to 3 substituents independently selected from W; C_7–C_{15} phenoxycarbonyl optionally substituted with 1 to 3 substituents selected from W; C_7–C_{15} phenylcarbonyl optionally substituted with 1 to 3 substituents independently selected from W; $C(O)$-$CO_2C_1$to C_4 alkyl, C_8–C_{12} benzyloxycarbonyl optionally substituted with 1 to 3 substituents independently selected from W; or R_5 and R_6 are independently phenyl optionally substituted with 1 to 3 substituents independently selected from W, or benzyl optionally substituted with 1 to 3 substituents independently selected from W;

R_8 is H, C_1–C_6 alkyl, C_1–C_6 haloalkyl, C_4–C_7 cycloalkylalkyl, C_4–C_7 halocycloalkylalkyl C_2–C_6 alkenyl, C_2–C_6 haloalkenyl, C_2–C_6 alkynyl, C_2–C_6 haloalkynyl, C_2–C_6 alkoxyalkyl, C_2–C_6 alkylthioalkyl, C_1–C_6 nitroalkyl, C_2–C_6 cyanoalkyl, C_3–C_8 alkoxycarbonylalkyl, C_3–C_6 cycloalkyl, C_3–C_6 halocycloalkyl, phenyl optionally substituted with 1 to 3 substituents independently selected from W or benzyl optionally substituted with 1 to 3 substituents independently selected from W;

R_9 is H, C_1–C_4 alkyl, C_2–C_4 alkenyl or C_2–C_4 alkynyl;

R_{10} is R_8, halogen, CN, NO_2, N_3, SCN, OR_8, SR_8, SOR_8, SO_2R_8, NR_8R_9, COR_8, CO_2R_8, $CONR_8R_9$, $SO_2NR_8R_9$, $OC(O)R_8$, OCO_2R_8, $OC(O)NR_8R_9$, $NR_9C(O)R_8$, $NR_9C(O)NR_8R_9$, OSO_2R_8 or $NR_9SO_2R_8$;

R_{11} is C_1–C_{22} alkyl, C_1–C_{22} haloalkyl, phenyl optionally substituted with 1 to 3 substituents independently selected from W;

W is halogen, CN, NO_2, C_1–C_2 alkyl, C_1–C_2 haloalkyl, C_1–C_2 alkoxy, C_1–C_2 haloalkoxy, C_1–C_2 alkylthio, C_1–C_2 haloalkylthio, C_1–C_2 alkylsulfonyl or C_1–C_2 haloalkylsulfonyl;

m is 1 to 5;

n is 1 to 4;

t is 0 to 3; when t is 2 and R_2, R_3, R_4, R_5 and R_6 are each H, then R_1 is other than H or NO_2;

q is 0 to 2;

p is 1 to 3; and

X is O or S; X being O when A is CH_2 and R_2, R_3 and R_4 are H, with the further proviso that when X is S and A is CH_2, the 2,3-dihydro-indene moiety may not be substituted solely with a single methyl group.

2. A compound according to claim **1** wherein: when t is 0 then R_3 or R_4 are other than Ph or phenyl optionally substituted with W.

3. A compound according to claim **1** wherein:

R_1, R_2 and R_{10} are R_8, halogen, CN, NO_2, OR_8, SR_8, SOR_8, SO_2R_8, NR_8R_9, CO_2R_8, $SO_2NR_8R_9$;

R_8 is H, C_1–C_6 alkyl, C_1–C_6 haloalkyl, C_3–C_6 cycloalkylalkyl, C_3–C_6 halocycloalkylalkyl, C_2–C_6 alkenyl, C_2–C_6 haloalkenyl, C_2–C_6 alkynyl, C_3–C_6 cycloalkyl, phenyl optionally substituted with 1 to 2 substituents independently selected from W or benzyl optionally substituted with 1 to 2 substituents independently selected from W;

R_5 and R_6 are independently H, C_1–C_3 alkyl, C_2–C_4 alkylcarbonyl, C_2–C_4 alkoxycarbonyl, CHO, SR_{11}, phenyl optionally substituted with 1 to 2 substituents independently selected from W, or benzyl optionally substituted with 1 to 2 substituents independently selected from W;

R_{11} is C_1–C_3 alkyl, phenyl optionally substituted with 1 to 2 substituents independently selected from W;

m is 1 to 2;

n is 1 to 2;

p is 1 to 2; and

q is 0.

4. A compound according to claim **3** wherein:

R_3 is H, C_1–C_4 alkyl, C_1–C_4 haloalkyl, C_2–C_4 alkenyl, C_2–C_4 alkynyl, CN, phenyl optionally substituted with $(R_{10})_p$ or benzyl optionally substituted with 1 to 2 substituents independently selected from W;

R_4 is H, C_1–C_3 alkyl, C_3–C_4 alkenyl or C_3–C_4 alkynyl;

R_5 is H, Me, CO_2Me, CO_2Et, SR_{11} or phenyl optionally substituted with 1 to 2 substituents independently selected from W;

R_6 is H, Me, C(O)Me, CO_2Me or SR_{11};

R_{11} is C_1–C_3 alkyl, or phenyl optionally substituted with Cl, NO_2 or CH_3; and

A is CH_2, wherein the carbon is optionally substituted with C_1–C_3 alkyl or phenyl, wherein, the phenyl is optionally substituted with W.

5. A compound according to claim **4** wherein:

R_1 and R_2 are independently selected from F, Cl, Br, CN, NO_2, OMe, CF_3, OCF_2H, OCF_2CF_2H, SMe, SO_2Me, SCF_2H;

R_3 is C_1 to C_4 alkyl, allyl, propargyl, or phenyl optionally substituted with F, Cl, Br, CF_3, OCF_2H, OCF_3, SCF_2H, CN, NO_2, CH_3, OMe or CO_2Me;

R_4 is H or CH_3;

R_5 is H, CH_3, CO_2CH_3, CO_2Et, or phenyl optionally substituted with F or Cl; and

R_6 is H, CH_3, $C(O)CH_3$ or CO_2CH_3.

6. A compound according to claim **5** wherein: A is CH_2; and R_3 is optionally substituted phenyl or C_1 to C_4 alkyl.

7. A compound according to claim **6**: 2-[5-fluoro-2-(4-fluorophenyl)-2,3-dihydro-1H-inden-1-yl-idene]-N-[4-(trifluoromethoxy)phenyl]hydrazine carboxamide.

8. A compound according to claim **6**: 2-(5-fluoro-2,3-dihydro-2-methyl-1H-inden-1-ylidene)-N-[4-(trifluoro methyl)phenyl]hydrazine carboxamide.

9. A compound according to claim **6**: 2-[5-chloro-2,3-dihydro-2-(1-methylethyl)-1H-inden-1-ylidene]-N-[4-(trifluoromethyl)phenyl]hydrazine carboxamide.

10. A compound according to claim **6**: 2-(5-chloro-2,3-dihydro-2-methyl-1H-inden-1-ylidene)-N-[4-(trifluoromethyl)phenyl]hydrazine carboxamide.

11. A compound according to claim **6**: 2-[5-fluoro-2-(4-fluorophenyl)-2,3-dihydro -1H-inden-1-yl-idene]-N-[4-(trifluoromethyl)phenyl]hydrazine carboxamide.

12. An arthropodicidal composition comprising an arthropodicidally effective amount of a compound according to claim **1** and a carrier therefor.

13. A method for controlling arthropods comprising applying to them or to their environment an arthropodicidally effective amount of a compound according to claim **1**.

* * * * *